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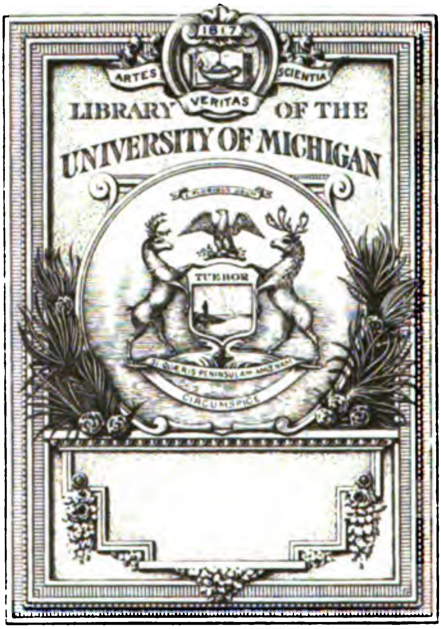
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STATE OF NEW YORK.

No. 15.

IN ASSEMBLY,

January 11, 1877.

REPORT

OF THE

BOARD OF MANAGERS OF THE NEW YORK STATE REFORMATORY.

ALBANY, *January* 10, 1877.

Hon. GEORGE B. SLOAN, *Speaker of the Assembly:*

SIR. — I have the honor to present herewith the Report of the Board of Managers of the New York State Reformatory.

Very respectfully,
Your obedient servant.
LOUIS D. PILSBURY,
President Board of Managers.

REPORT.

To the Legislature of the State of New York:

The undersigned the Board of Managers of the New York State Reformatory at Elmira, respectfully report as required by section 8, chapter 207, of the Laws of 1876.

The managers organized at Elmira on the ninth of May last, by electing Manager Pilsbury to the presidency of the board, and Manager Thurston, secretary. On the twelfth they elected Z. R. Brockway as general superintendent, and Manager Thurston for treasurer.

At this time the work of erecting two blocks of cells, and a small part of the outside wall of the north wing was in progress, under the direction of Mr. J. R. Thomas, the architect, and was completed early in July. [The required information as to that portion of the work will doubtless be submitted in Mr. Thomas' report.]

The south wing was without locks or other fastenings for the cells, the galleries and stairs were unfinished, the steam heating and cooking apparatus was not ready, there were no outside doors, no inclosure for the yard, and, of course, no furnishings and facilities for subsisting prisoners or their keepers and guards.

Having inserted temporary doors in the outside openings, and placed locks upon some of the cells, requisition was made upon the Inspectors of the State Prisons for convicts to labor upon the structure.

The Inspectors transferred to the reformatory as follows, namely: Thirty convicts from Auburn on the twenty-fourth July; fifty convicts from Auburn on the first August; fifty convicts from Sing Sing on the tenth August; twelve convicts from Auburn on the twelfth September; twenty-six convicts from Auburn on the twenty-third September; sixteen convicts from Sing Sing on twenty-fourth October; ten prisoners were received from the courts, making altogether 194 received to this date. Of these thirty have been discharged, leaving 164 in confinement now. The convicts and prisoners were immediately employed, and have rendered very satisfactory service, having actually performed more than 13,000 days' labor upon the buildings and grounds, and in the domestic work of the establishment. The labor so performed is not charged against any appropriation of the Legislature, but the value of it is realized in so far as it has been applied upon the building operations, through the increased amount of work accomplished by the appropriations over what would have been done without it.

Three hundred and twelve of the 504 cells provided for in the plan are now ready, the whole of the south wing, central building and officers' quarters are finished and in use, the foundations for the whole yard wall is completed, a brick wall is built twenty feet high, twenty inches thick, supported with strong pilasters every twelve feet and with suitable sentinel towers and gateways, the whole being coped with six-inch stone coping. This wall is built down the south side to the center of the yard, as projected, thence across intersecting the old stone wall on the north side, which was previously constructed, and on the north side from the wing to the stone wall the brick inclosure is also finished. There is formed thus an inner court or yard 625 feet wide by 575 feet deep, within which the shops are in process of erection. The walls of the outer or rear yard, to be of about the same dimensions, are partially constructed of stone, and is designed, when completed, to inclose the farm buildings, storehouses, etc. The wall and the buildings should be built without delay. The workshop, nearly finished, is fifty feet wide by 200 feet long, containing two stories, each fourteen feet in the clear. An engine and boiler-house, twenty-five by forty-five feet, is attached in the rear, and an engine with two boilers has been selected, so that the whole may be ready to employ the prisoners at profitable work within a very short time. Suitable buildings for gas-works have been provided, and the works are in successful operation, and a building for domestic purposes, fifty feet wide, 125 feet long, having underneath it a vegetable cellar eight feet deep and the whole size of the building, is well under way.

All the materials for the barn and other out buildings are on the ground. The north wing is now progressed up to and ready for the roofs, and it is possible to complete it, by the labor of the prisoners chiefly, so as to be ready to occupy early next autumn. Besides this, some seventy acres of worn out pasturage of the farm have been plowed, preparatory to putting in crops in the spring.

A detailed statement of all expenditures thus far, by the managers, is hereinafter made, and the following is a summary thereof.

The appropriations of the last Legislature for the reformatory have all been drawn. They are as follows, namely :

For purchasing materials and proceeding with the construction of the north wing	$50,000 00
For purchasing materials and constructing the shops, buildings and inclosure	50,000 00
For furnishing cells and rooms	20,000 00
For fuel, light, employed labor, etc	10,000 00
For salaries of officers and maintenance of inmates	30,000 00
Total	$160,000 00

There has been expended as follows, namely :

For the north wing construction	$45,389 48
For shops, buildings and inclosure	37,665 41
For furnishing cells and rooms	16,503 03

For fuel, light, etc., including the gas-works complete,	$9,018 03
For salaries and maintenance	17,373 53
Total	$125,949 48

Leaving (of all appropriations) yet unexpended, $34,050.52.

This balance, if distributed among the several funds for which it was appropriated, will stand as follows, namely:

To the credit of north wing construction	$4,610 52
To the credit of shops, buildings and inclosure	12,334 59
To the credit of furnishing cells and rooms	3,496 97
To the credit of fuel and light account	981 97
To the credit of maintenance account	12,626 47
Total	$34,050 52

The unexpended balances, as above, will all be absorbed in completing or carrying forward the work in progress, for which some material is ordered or in hand, and in maintaining the reformatory until new appropriations may be made available, thus:

The $4,610.52 for the north wing will be required to make the grating from iron already purchased and in building the ventiducts under the stone floors. The shop and domestic buildings are yet to be roofed, floored and finished inside. The barns and other outbuildings are to be erected and there is yet to be built a portion of the inner yard wall. The foundations for the engine and boilers are to be laid and a chimney a hundred feet high constructed, besides considerable banking up and grading to be done, so that the $12,334.59 now in hand for this purpose will all be needed. The furnishing of the cells in the east and west portion of the south wing, which are now ready, together with other smaller items of furnishing yet to be done, will use up the $3,496.97 remaining of this fund, and the necessary expense of fuel and light and for maintenance until next May will require the whole of the unexpended balances of these appropriations. The work yet to be done on the north wing consists of the construction of all the roofs, the windows, carpenter work and plastering, cell doors, locks, night bars, iron doors to pavilions and to the yard, the galleries, stairs and flagging of corridors, making the gratings for all outside windows and the furnishing of the 192 cells therein, and will cost—

To complete and furnish the north wing	$75,000 00
Another workshop like the one in process, which will supply sufficient shop room for the present cell capacity of the reformatory, will cost	15,000 00
Two storehouses for manufacturing material, etc.	5,000 00
The inclosure around the outer yard	10,000 00
The construction of the much needed roads and some grading	5,000 00
Amount required to fully complete the reformatory,	$110,000 00

There will then be required to employ the prisoners to advantage a large engine, boilers, shafting, pulleys, belting and machinery, the cost of which will be at least	$25,000 00
The estimated cost of supporting the reformatory during the next year and while the labor of the prisoners is mainly directed to the completion of the buildings and grounds is, upon the basis of a probable prison population of 300 prisoners	50,000 00
Making altogether the amount of	$185,000 00

With which it is confidently expected the reformatory will be *entirely completed* and all needed facilities furnished for employing the prisoners directly for the State, without contracts, if that shall be thought best. With such an appropriation for 1877, and with possibly a small appropriation for partial maintenance in 1878, the managers expect to put the reformatory on a self-sustaining basis, or at least so nearly so that any further cost for current support will not be at all burdensome to the State.

DETAILED STATEMENT *of expenditures under the several appropriations respectively.*

NORTH WING CONSTRUCTION.

Paid Rumrill & Rapp for mason work	$41,240 75
Paid for iron and iron work	2,458 60
Paid for barricade and fence around this work	322 21
Paid for one lumber wagon	65 00
Paid for carpenter work, hose, scaffolding, etc	302 95
Paid for temporary conductors from the roof of main building	32 87
Paid for advertising	77 60
Paid for services and board of overseer of prisoners at work on this wing	164 50
Paid James McQuatters, an expert builder, for supervising this work	725 00
Total expended to date	$45,389 48

FUEL, LIGHT, EMPLOYED LABOR, AND OTHER NECESSARY EXPENSES.

Paid J. M. Low for gas-works complete	$4,966 50
Paid for fuel, oil for gas, fire-brick and incidental repairs	2,925 72
Paid for services of engineer	217 67
Paid for employed labor and other necessary expenses,	908 14
	$9,018 03

FOR MATERIALS AND CONSTRUCTING SHOPS, BUILDINGS AND INCLOSURE.

For barricade and fence around this work	$322 21
For animals, wagons, carts and harness	1,942 27
For team work	1,309 25
For mechanical assistance of citizens	3,924 33
For services and board of guards and overseers of the prisoners employed on this work	3,559 99
For tools necessary to employ the prisoners	1,200 52
For advertising	411 21
For freight and sundry small items	114 50
For lumber, windows, shingles, paints and hardware	6,177 13
For iron columns, iron doors, iron work, hardware and drain tile	6,271 31
For one twelve feet screw for opening the yard gate	33 20
For brick, stone, lime, sand and cement	12,399 49
	$37,665 41

FURNISHING CELLS AND ROOMS.

Iron bedsteads for the cells	$1,223 75
For night tubs	277 00
Comfortables, blankets, ticking and sheeting	1,351 12
Steam and gas fitting and plumbing	1,949 85
Cooking range, bath tubs and flooring	307 50
Gas fixtures, grates and mantels	1,217 50
Laundry, bakery, kitchen utensils and furniture	2,248 83
Furnishing officers' quarters complete	4,644 72
For electric bells and signals	553 25
Steam kettles for cooking	570 00
For steam elevator in north-west tower	922 00
For shafting, pulleys, etc., and connecting elevator with engine	119 14
For one twelve-horse power engine for laundry purposes, etc	400 00
For hardware, freight, and sundry small items	366 39
For mason work and plastering	121 75
For sewing machines and photograph apparatus	143 00
For iron work of Turner & Pond	87 23
	$16,503 03

SALARIES AND MAINTENANCE.

Amount expended for provisions	$6,871 00
Amount expended for clothing	3,343 14
Amount expended for pay of officers	4,204 99
Paid prisoners on their discharge, as required by law,	545 59
Arms, and repairs to same, and for arrests and ammunition, etc	294 25
Drugs, medicines, ice, an analysis of the water in reservoir, and for watching reservoir during the summer,	335 54

Books and stationery and books for library	$356 41
For constructing the telegraph line and for telegraphing	208 51
For soap, pails, tubs, brooms, etc	492 35
Expended for tobacco (now no longer supplied)	209 07
For postage, cartage and expressage	118 74
For photograph materials	81 45
For horse feed, hay and shoeing for errand horses	88 55
For harness and repairs for same	58 70
For sundry items of incidental expenses	165 24
	$17,373 53

It is not probably expected, at this stage of the reformatory, we should have entered actively upon the work of improving the prisoners, as it is only possible when the reformatory is completed and new legislation has giving us properly the special class for which it is designed. They have, however, been supplied with such ordinary means of improvement as the incomplete condition of things would allow and the class of convicts seem to warrant. Some books have been purchased to form the nucleus of a good library; many magazines and papers have been generously contributed by the citizens of Elmira, and the pastors of churches here and other gentlemen have kindly addressed the prisoners on Sunday. Through these means, though no chaplain has yet been formally appointed, the prisoners have not lacked for public instruction or for opportunity for friendly conversation and advice as to their future course and conduct.

The early completion of the workshop and introduction of machinery will enable the seating of the chapel and school-room, by the labor of the prisoners themselves, when the school and the other appliances that follow in its train will be at once provided and the system of training intended be fully begun. The managers have carefully considered the difficulties in the way of reforming criminals, and also the true relation of the reformatory to the prison system of the State.

The difficulties are of two kinds. Such as inhere in human society not to be removed until the face of society shall essentially change; and others belonging to the criminal himself and to the circumstances that surround him in prison and out. We have alone to do with the latter which are measurably under human control. With few exceptions criminals are *ignorant*. Not only untaught, but undeveloped in those higher faculties of the mind that so distinguish us from the brutes. Naturally from this cause they are insensible to morals and indifferent to the rights or welfare of others when standing in the way of the gratification of their own instinctive desires. With such ignorance and insensibility there is of necessity an indisposition to forsake their vicious practices and companions; and with such undeveloped powers they are so under the sway of the momentary impulse that there is actual inability to pursue steadily any given course or calling that fails to feed their diseased or degraded demand for unnatural excitements. Such persons in society are usually paid but poorly for any work they can do or be induced to do, and so are ready to yield to temptations offering larger gains easily obtained by dishonesty, and their ungoverned passions lead also to affrays and offenses against the public peace. The only social intercourse possible for them any where is found among those of their own type, unhappily for them and for the welfare of society, too readily found among that community of discharged convicts, annually pouring forth from our prisons, under the present system of sentences and administration. Still another and most formidable difficulty is found in the sentences of prisoners and in the kind of control necessitated thereby. The sentence to imprisonment for a definite period of time is always a retributive punishment, and is so understood by criminals. Being unequally imposed, that is, two prisoners being confined for very different terms for the same crime, they feel that both sentences cannot be just, engendering thus bitterness and opposition. Or if the sentence of any prisoner seems too long, he will remain sullen and depressed, if too short he chuckles over his escape from the expected penalty, and awaits his return to the old companions and crimes with indifference to the present imprisonment. If (as must occur very rarely if at all) the sentence should happen to meet his own judgment of justice in the case, then he serves out his sentence stolidly, seeming satisfied to adjust his crime by paying, in pain endured, the prescribed penalty. In any event a time sentence is sure to turn the attention of the prisoner to the passing time of it, so as to hinder the higher and better engagement absolutely necessary to his real improvement.

Prisoners of such character and with such a habit of mind will, by their communication with each other in prison, produce nothing but evil, increasing the difficulties in way of their reform; and the means taken to avoid this, whether by strict surveillance and severity, or by separate confinement, as under the Pennsylvania system, but confirms the character, and fastens upon them the objectionable frame of mind. There can be little hope of reforming prisoners unless these conditions of mind can be invaded at the start, and they cannot, without considerable change in the circumstances of prisoners in prison from their present situation. It is believed the most important change, indeed the essential condition of any valuable reformatory results, is the change from time sentences to reformatory or indefinite sentences, as hereinafter explained. It is only by this means that every avenue of hope for release from imprisonment, save the single one of *personal fitness for further liberty*, can be closed to the prisoner on his admission to prison, and his mind be turned from cunning devices to procure a pardon, and from the counting of the days as they pass, to the matter of preparing himself for restoration to citizenship. The present law conferring a commutation of sentence for good conduct is a measure looking in this direction, but is inadequate, because it does not drive from the prisoner's mind the hope of return to his criminal companions, and the subject of dates, days and doing as the way of discharge.

It certainly tends to secure good order and submission to the rules, and this is well, but it is powerless to break up bad conditions and habits of mind, nor can it supply any thing better in their place.

Following this fundamental change are, of course, many necessary measures, such as the proper classification of prisoners in prison, placing them in contact with a graduated scale of rewards, their education in industry — in school and otherwise — to supply the demands of their awakened intellectual powers with intellectual food suitable and sufficient for them. So, too, their personal intercourse with officers must be of a dignified, gentlemanly type, and the moral atmosphere surrounding them must be free from deceit, dishonesty or unworthy selfishness.

The managers are desirous that the reformatory shall prove something of a bulwark against crime. Not so much by offering a rigorous recompense of evil as the reward of crime — but by actually preventing further crimes by the prisoners sent here, either by returning them as seems necessary or by their return to society so improved as to be reasonably safe citizens. To accomplish this, in any good degree, it is believed the law hereto subjoined is absolutely necessary. And that the question, whether the reformatory shall take place in our prison system as one more unprofitable establishment, or, on the other hand, fulfill its true mission — that is, to be serviceable in preventing crime and in saving to themselves and to society some of the more youthful and venial offenders, and at the same time raise up a standard in the State having a good effect upon all our prisons — very largely depends upon the enactment of a suitable law involving the principle we have named.

The managers have prepared their views of what is required, more particularly, in the form of an act.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

SECTION 1. Any person who shall be convicted of any offense punishable by imprisonment in the New York State Reformatory at Elmira, and who may be sentenced to imprisonment under any law now in force or hereafter to be enacted, shall be subject to imprisonment in the custody and under the control of the board of managers of said reformatory, as hereinafter provided by this act.

§ 2. All courts of record in the State of New York which, in the exercise of their just jurisdiction, may sentence any person to imprisonment in the New York State Reformatory at Elmira, shall sentence such person to imprisonment in the custody of the board of managers of said reformatory until released therefrom by due process of law, but shall not fix upon, state or determine any definite period of time for the continuance of such imprisonment and custody.

§ 3. The court imposing such sentence, shall in each case furnish to the sheriff or other proper officer, a copy of the complaint, information, or indictment upon which the conviction is had, a statement of the defendant's plea, the names and residences of the witnesses sworn in the case, an abstract or copy of the testimony given, the sentence rendered and the date thereof; which copy, statement and abstract, signed by the clerk of the court, shall be delivered with the prisoner to be conveyed to the said reformatory; and such copy, statement and abstract, signed by the clerk of the court, shall be *prima facie* evidence against the prisoner in all proceedings for the release of said prisoner by writ of *habeas corpus* or otherwise.

§ 4. The court imposing such sentence shall remand the prisoner to the custody of the sheriff, there to await the custodian of the said reformatory as hereinafter provided, and shall forthwith transmit to the general superintendent of the said reformatory, signed by the clerk, notice of such conviction and sentence.

§ 5. It is hereby made the duty of the general superintendent of the said reformatory, upon receipt of notice, to immediately proceed by himself, or his agent, to the place of conviction, or sheriff's custody, and take charge of any person so convicted and sentenced, with the copy statement and abstract mentioned in the third section of this act, and forthwith convey them to the said reformatory, and the sheriff shall deliver over to the said superintendent, or his agent, upon his written application, the prisoner and papers in the case as aforesaid. The actual and necessary expenses of transporting prisoners, as provided in this section, shall be paid out of the funds of the said reformatory.

§ 6. The board of managers of the said reformatory shall have power to detain in the said reformatory, subject to the rules and regulations thereof, all prisoners sentenced to the said reformatory. Power to transfer, temporarily, with the consent of the superintendent of prisons, to either of the State prisons, or to the convict asylum at Auburn, any insane prisoner, any prisoner who, subsequent to his committal, is shown to have been more than thirty years of age at the time of his conviction, or to have been previously convicted of crime, also any apparently incorrigible prisoner whose presence in the reformatory is seriously detrimental to the objects of the reformatory for all the prisoners. Power to establish rules and regulations under which prisoners may be transferred from one grade to another within the reformatory, or may, upon showing evidence of improved character, be absolutely or conditionally released from confinement in said reformatory, or from other custody and control. Power to resume such control and custody, wholly or in part, and to recommit to the said reformatory at any time prior to their absolute release. The written order of said board of managers, signed by the secretary thereof, shall be due authority for the general superintendent of the said reformatory, or his agent, any sheriff, or other proper officer, to rearrest and return any prisoner not theretofore absolutely discharged, to the custody of said board of managers in the said reformatory. And it is hereby made the duty of all such agents, all sheriffs or other officers as aforesaid, to execute such order the same as it is now their duty to execute ordinary legal process. The written order of said managers, so signed, shall also be sufficient authority for the agent and warden of any State prison, or of the convict asylum at Auburn, to receive and detain, and to surrender and return, any prisoner originally sentenced to the reformatory. The said board of managers shall also have power to make rules and regulations for the employment, discipline, education, removal, release, rearrest and recommittal to the reformatory at any time previous to their absolute release, of all prisoners sentenced to the reformatory.

§ 7. The board of managers shall receive into said reformatory, subject to rules and regulations as provided in this act, so far as the same are applicable, all male criminals between the ages of sixteen and thirty years, not known to have been previously sentenced to a State prison or penitentiary, on conviction of a felony in this or any other State, who shall be legally sentenced to said reformatory by any court of the United States.

§ 8. Whenever there is unoccupied room in the reformatory, the board of managers may make requisition upon the superintendent of prisons, who shall select such number as is required from among the youthful, well behaved and most promising convicts in the State prisons, and transfer them to the reformatory for education' and treatment under the rules and regulations thereof. And the board of managers are hereby authorized to receive and detain, during the term of their sentence to the State prison, such prisoners so transferred; provided, that the laws applicable to convicts in the State prisons, so far as they relate to the commutation of imprisonment for good conduct, shall be applicable to said convicts when transferred under this section.

§ 9. It shall be the duty of said board of managers to maintain such control over all prisoners committed to their custody as shall prevent them from committing crime, best secure their self-support and accomplish their reformation. When any prisoner shall be received into the reformatory upon direct sentence thereto, they shall cause to be entered in a register, the date of such admission, the name, age, nativity, nationality, with such other facts as can be ascertained, of parentage, of early social influences, etc., as seem to indicate the constitutional and acquired defects and tendencies of the prisoner, and, based upon these, an estimate of the then present condition of the prisoner, and the best probable plan of treatment. Upon such register shall be entered quarter-yearly, or oftener, minutes of observed improvement or deterioration of character, and notes as to methods and treatment employed; also all orders or alterations affecting the standing or situation of such prisoner, the circumstances of the final release and any subsequent facts of the personal history which may be brought to their knowledge.

§ 10. The board of managers shall, under a system of marks, or otherwise, fix upon a uniform plan under which they shall determine what number of marks, or what credits shall be earned by each prisoner sentenced indefinitely, as the condition of increased privileges, or of release from their control, which system shall be subject to revision from time to time. Each prisoner so sentenced shall be credited for good personal demeanor, diligence in labor and study, and for results accomplished, and be charged for derelictions, negligences and offenses. An abstract of the record in the case of each prisoner remaining under control of the said board of managers, shall be made up semi-annually, considered by the managers at a regular meeting and filed with the Secretary of State, which abstract shall show the date of admission, the age, the then present situation, whether in the reformatory, State prison, asylum or elsewhere, whether any, and how much progress of improvement has been made, and the reasons for release or continued custody, as the case may be. The managers shall establish rules and regulations by which the standing of each prisoner's account of marks or credits shall be made known to him as often as once a month, and oftener if he shall at any time request it, and may make provision by which any prisoner may see and converse with some one of said managers during every month. When it appears to the said managers that there is a strong or reasonable probability that any prisoner will leave and remain at liberty without violating the law, and that his release is not incompatible with the welfare of society, then they shall issue to such prisoner an absolute release. But no petition or other form of application for the release of any prisoner shall be entertained by the managers.

§ 11. If through oversight, or otherwise, any person be sentenced to imprisonment in the said reformatory for a definite period of time, said sentence shall not for that reason be void, but the person so sentenced shall be entitled to the benefits and subject to the liabilities of this act in the same manner and to the same extent as if the sentence had been in the terms required by section two of this act, and in such case said managers shall serve upon such offender a copy of this act, and written information of his relation to said managers.

§ 12. Said managers may appoint a suitable person in each county to act as their agent in supervising prisoners who are conditionally released, and who shall be subject to direction and removal by them. Said agents shall be paid for the duties actually performed under the direction of said managers, and upon their certificate of such duties performed, by the supervisors of the county to which they belong, respectively, in such sum as said supervisors may award. The duties of such agent shall be limited to investigation as to the life and habits of conditionally released prisoners, to their rearrest and transfer to the more immediate custody of the said managers, and to report to said managers upon such investigations, and in relation to crime and the causes thereof, within said county.

§ 13. All acts and parts of acts inconsistent with this act are hereby repealed.

Such a law as the foregoing will effect a considerable saving in the cost of transporting prisoners to the reformatory, will discourage improper arrests and convictions, stimulated as they are sometimes by the fees to be derived for conveying the prisoners to prison, and, will tend to prevent an unfavorable frame of mind with prisoners when entering upon their imprisonment, arising from improper custodians during their transportation from the place of conviction. It will utilize for improvement what is one of the strongest motives with prisoners, and now the greatest hindrance to their reformation, namely, their desire to be released. It puts the personal interest of the prisoner plainly in line with obedience to prison rules, thus rendering the disciplinary department of the administration both safe and simple. It will make always effective the principle of the present commutation law which by reason of necessities arising from the crowded condition of our prisons and a loose application of the law itself, has lost much of its former force. If it is objected, that it will induce the practice of duplicity on the part of prisoners, hoping thus to obtain their release; it will, on the other hand, turn this artifice towards those charged with their treatment, giving access thus to the phase of character so necessary to treat, but ordinarily so difficult to reach. And experience has shown that when falsehood and strategy fail, as they are quite sure to fail (when tried with experts under this system) then the prisoner's voluntary cooperation with efforts for his own good is often easily obtained. It will better accomplish the return of the prisoner to society, at the time and under the circumstances most conducive to his welfare and good behavior, and by retaining some supervision of him until finally and absolutely released, may assist his new formed purposes of reform, or protect the public from his further crimes by returning him to closer custody whenever his habits and associations warrant it. It will also remedy the dangerous practice of discharging a number of prisoners together on the same day, as is now done, and by their gradual enlargement instead, save the prisoners themselves from the shock of such sudden transition from a state of penal servitude to the liberty of citizens, a shock that often unsettles good purposes, well formed for future guidance. Thus, too, the present practice of planning in prison the crimes to be perpetrated on their release together, at a known period of time, will become impossible, because the date of their discharge is not known to them beforehand under this system, and they go so gradually from restraint to liberty, that opportunity is given to test apparent amendment, and to correct any errors before it be too late.

To sentence prisoners thus indefinitely is no hardship, for it places the time of their release practically in their own hands, and it is due to society that they who by crime are shown to be dangerous citizens when at large, should be kept under proper restraint until the danger is over; the prisoner has no just claim to enlargement until he is safe. It is not only due to society, but more, it is a public outrage upon peaceful citizens, to turn loose upon them, as we are constantly doing, from our prisons, professional criminals who openly avow the purpose to pursue again their criminal course.

Any supposed risk incurred by clothing a board of managers with so much authority over these prisoners is guarded by the requirement that full returns shall be made semi-annually to the Secretary of State at which office any one interested can find all facts as to any prisoner, and it will be remembered, the Governor of the State has power to pardon.

The principles of the proposed law are not new and untried. They have been discussed for long, and especially since 1870, in both Europe and America. Three prison congresses, at least, have formally adopted them. The Board of Commissioners of State Institutions, in one State certainly, have urgently recommended to their Legislature a reorganization of their whole prison system upon a similar basis. Leading lawyers and judges, with other thoughtful minds, at home and abroad, heartily indorse it, and it is, after all, but a much needed extension of the principle of the good-time or commutation law now in force in all the States. It is also found in operation in the case of the insane and of juvenile delinquents sentenced to our houses of refuge or reform schools.

The recommendations of the managers are three-fold, namely:

1. That an appropriation of $110,000 be made to complete the reformatory during 1877, and $25,000 to supply motive power and machinery to employ the prisoners advantageously; and $50,000 for maintenance for 1877, before the labor of the prisoners can be applied to produce income; making all together, $185,000.

2. That the views of the managers, as embodied in the report, as to what is required to make the reformatory successful in its chief design, be enacted into a law.

3. That the managers be authorized to dispense with the further services of the architect, when the progress of the work will warrant it.

The managers do not wish to close their report without an acknowledgment of the great obligation they owe to the very extraordinary efficiency of Mr. Z. R. Brockway, upon whom, in the month of May last, they conferred the general superintendence of the reformatory. This gentleman, from having been connected with the management of prisons for more than a quarter of a century, is, from such an experience, able to determine the right of every question which has come before the board in relation not only to the reformatory building and its needful appurtenances, but, also, as to the organization, discipline and general conduct of the institution. To him, whose views upon prison discipline have been cited with approval, not only in this country but in Europe, are the managers largely indebted for light upon subjects connected with their duties, to which, before their appointment, most of them were comparative strangers.

The board would also add, that although its members maintain antagonistic political opinions, no word has been spoken or action taken in the appointment of subordinates or in the general conduct of the affairs relating to the reformatory, having the remotest reference to party politics. This the managers believe to be in strict accordance with the spirit of the law under which they received their appointment, and conducive to the best interests of the institution; and whether the experiment of endeavoring to make men better, by punishment administered in kindness, and the administration of a punitive code of laws, tempered by a humane consideration of the weakness of human nature exposed to temptation, shall or shall not prove successful, the undersigned hope and trust that the day is far distant when political considerations shall have the slightest influence over the minds of the men who may, in all time to come, have the conduct and charge of The New York State Reformatory.

All which is respectfully submitted.

LOUIS D. PILSBURY.
SINCLAIR TOUSEY.
WM. C. WEY.
R. KING.
ARIEL S. THURSTON.

TWENTY-SIXTH ANNUAL REPORT

OF THE

TRUSTEES

OF THE

NEW YORK ASYLUM FOR IDIOTS

For the Year 1876.

TRANSMITTED TO THE LEGISLATURE JANUARY 11, 1877.

JEROME B. PARMENTER, STATE PRINTER.
1877.

TRUSTEES.

JAMES H. TITUS.
ALLEN MUNROE.
GEORGE F. COMSTOCK.
FREDERICK D. HUNTINGTON.
FRANKLIN TOWNSEND.
E. W. LEAVENWORTH.
LAKE I. TEFFT.
ALFRED WILKINSON.

STATE OFFICERS — EX-OFFICIO TRUSTEES:

LUCIUS ROBINSON, *Governor.*
WM. DORSHEIMER, *Lieutenant-Governor.*
JOHN BIGELOW, *Secretary of State.*
——————————, *Comptroller.*
NEIL GILMOUR, *Superintendent of Public Instruction.*

PERMANENT CHAIRMAN:

JAMES H. TITUS.

SECRETARY AND TREASURER:

ALLEN MUNROE.

EXECUTIVE COMMITTEE:

A. WILKINSON.
JAMES H. TITUS.
GEORGE F. COMSTOCK.

OFFICERS.

Superintendent:

HERVEY B. WILBUR, M. D.

Matron:

Miss ALVIRA WOOD.

Assistant Matron:

Mrs. F. A. HARDY.

Housekeeper:

Mrs. M. A. YOUNG.

Teachers:

Miss S. P. YOUNG.
Mrs. R. VAN VLECK.
Miss L. PETHERAM.
Mrs. M. E. COOK.
Miss L. E. KNIGHT.
Miss HARRIET KNIGHT.
Miss HARRIET CLARK.

Steward:

BENJAMIN N. EASTMAN.

STATE OF NEW YORK.

No. 16.

IN ASSEMBLY,

January 11, 1877.

TWENTY-SIXTH ANNUAL REPORT

OF THE

TRUSTEES OF THE NEW YORK ASYLUM FOR IDIOTS.

To the Legislature of the State of New York:

Agreeably to the provisions of the act establishing this institution the undersigned trustees respectfully submit this, their twenty-sixth annual report.

The total cash receipts for the year ending September 30, 1875, as will be seen by the treasurer's report, herewith annexed, were as follows:

RECEIPTS.

Cash from State Treasurer (annual appropriation)....	$36,000 00
County treasurers for clothing State pupils..........	3,027 15
Receipts for board, instruction and clothing of pay pupils.......	5,961 71
Balance in bank, October 1, 1875..................	231 95
Balance in hands of superintendent, October 1, 1875..	396 96
	$45,617 77

EXPENDITURES FOR FISCAL YEAR ENDING SEPTEMBER 30, 1875.

Provisions and household supplies..................	$13,160 19
Salaries................................	6,666 00
Wages and labor..........................	7,383 34
Fuel..................................	663 78
Gas..................................	876 17
Farm and garden..........................	232 44
Stable, horses and cows.......................	1,615 08

Furniture and furnishing articles	$2,913 06
Clothing	4,302 56
Books, stationery and school apparatus	753 73
Drugs and medicines	432 33
Repairs and improvements	4,137 02
Postage	98 00
Painting	76 54
Water	300 00
Freight, express and telegraph	148 20
Traveling expenses of trustees	61 26
Traveling expenses of superintendent	59 25
Money to boys	25 30
Sending children home	30 95
Expenses of shops	323 45
Sundries	2 06
Balance in treasury	1,124 91
Balance in hands of superintendent	32 15
	$45,617 77

From the above statement it will be seen that there was in the hands of the treasurer, October 1, 1876	$1,124 91
In the hands of the superintendent	32 15
There was due from counties for clothing State pupils,	660 00
Due from pay pupils for board, instruction and clothing	1,835 50
Total cash assets	$3,652 56

The liabilities of the asylum at that date were as follows:

Salaries of officers and teachers for quarter ending September 3, 1876	$1,687 50
September bills not audited till the second Monday in October	2,310 85
	$3,998 35

As an off-set to this total deficiency of about $350, there were supplies on hand, for the current year, of various kinds, to the amount of at least $1,500 in value.

During the fiscal year ending October 1, 1876, the average number of pupils was 212. The average annual expense of each pupil, including every thing but clothing, was therefore $190.

The trustees in their report to the legislature a year ago, called attention to the necessity of providing additional accommodations for pupils, in view of the fact that the asylum had been absolutely full for two or three years, and that the number of applications for admission greatly exceeded the vacancies created by the removal or death of pupils.

The legislature of last year acted upon this suggestion, and an appropriation was made of $35,000, to increase the accommodations to the extent of seventy additional pupils.

At the June meeting of the board, the method of expending this sum was discussed. The superintendent presented plans that included, first, the extension of the main building in the rear a distance of some forty feet. This makes it continuous with the gymnasium, and gives opportunity for a large kitchen in the basement, a large school room or hall in the main story, much needed hospital accommodations in the second story, besides two large dormitories above.

The old laundry to be enlarged, and in part rebuilt, and a front building thirty by fifty feet, to be added to it, containing offices for the matron and housekeeper, a large sewing room, and also sleeping rooms for the laundresses and servants.

And finally, the erection of an entirely new and independent structure on the north of the present buildings, in which can be accommodated all the large boys, and also furnishing work rooms for industrial occupations.

These plans were adopted by the board, and a building committee was appointed to make the necessary contracts. The work was begun in July. The extension of the main building and the additions to the laundry have been completed, and are now occupied. The new building is inclosed, and will be ready for occupation early in the spring.

The appropriation will be exhausted in completing this new building; but instead of increasing the present accommodations to the extent of seventy pupils, as contemplated a year ago, we shall have ample room for 100 more. The work thus far has been of the best materials and very thoroughly done.

To equip and furnish the new buildings properly will require about $12,000. Of this sum, $6,000 will be needed for furniture, and the remainder, for heating, plumbing apparatus and gas fixtures, the necessary sewer pipes, and some slight changes in the building, as the work has progressed.

When this is accomplished, the total construction account of the asylum from the very outset twenty-five years ago, will have been but $158,000, and with ample accommodations for 310 pupils, or but little more that $500 a pupil.

When it is mentioned that $35,000 of this sum was expended when extremely high prices both for labor and materials were prevailing, it will be seen that in economy of construction this institution compares favorably with that of any similar asylum in the United States.

The evidence of the necessity of an enlargement of the asylum was referred to in our last report. There has been a constantly increasing number of applications for admission each year. In fact, during the last year, most of the time, there was not a vacant bed.

From the opening of the asylum in 1851, with every addition made to its capacity, a speedy filling up has followed. It is the opinion of the board that as soon as the present increased accommodations are ready for occupation the number of suitable applicants for admission will be sufficient to fill them.

The new buildings, when completed, will add not only to the capacity of the institution but enable its managers to carry out more fully the practical aims of such an establishment by affording room for further industrial occupations.

With the increase in the number of inmates, there will be a necessity for a proportionate increase in the amount appropriated for maintenance. The trustees would, therefore, recommend that the annual appropriation be raised from $36,000 to $45,000. This will provide for the maintenance of at least 225 State pupils.

The report of the superintendent to the board, herewith annexed, furnishes, as usual, details of the domestic management of the institution, which the trustees, from their observation at stated periods, are enabled to confirm.

The New York Asylum for Idiots has now been in operation for twenty-five years. It began with thirty pupils; it now furnishes relief to the friends of some 225 pupils from all parts of the State. At the start there was but little knowledge of its purpose on the part of the public, and but little confidence in its success, but it has grown in public favor till hardly any one now questions the value of the work it has accomplished and is accomplishing. We, therefore, renewedly commend it to the good will and approval of the Legislature.

JAMES W. TITUS.
FRANKLIN TOWNSEND.
ALLEN MUNROE.
ALFRED WILKINSON.
GEO. F. COMSTOCK.
F. D. HUNTINGTON.
LAKE I. TEFFT.

Ex-officio:

F. P. OLCOTT,
Comptroller.
JOHN BIGELOW,
Secretary of State.
L. ROBINSON,
Governor.
NEIL GILMOUR,
Supt. Pub. Instruction.

SUPERINTENDENT'S REPORT.

To the Trustees of the New York Asylum for Idiots:

Gentlemen — I herewith submit a report of the affairs of the institution, of which I have the immediate charge, for the year ending September 30, 1876.

The whole number of pupils connected with the asylum during that period was 217.

The average attendance for the school year of forty-eight weeks was 215.

Of this number 185 were State pupils. The remainder were pay pupils, in full or in part, of the actual cost of their maintenance.

As for several years past, the actual cost for board and instruction of each of the above number of pupils was a little less than $200 a year. This includes the salaries of officers and all repairs to buildings, besides some $1,500 in the way of improvements and furniture for our increasing number of pupils.

On account of the desire of the county authorities to send away from the county asylums all the children in such establishments, there have been admitted to this asylum a larger number of cases of extreme indigence than formerly.

During the past year, for most of the time, we had not a vacant bed. Even the rooms planned for hospital purposes, in the wing erected some five years since, we were compelled to occupy for the accommodation of our ordinary pupils.

Fortunately we had almost no sickness during the year. There were but two deaths — one in the case of a boy who had had repeated attacks of paralysis, and another from meningitis following erysipelas.

The exemption of the pupils from sickness during the past year, as in fact during the whole history of the asylum, has been very remarkable. The sickness and the deaths that have occurred have been in large measure the mere culminations of chronic diseased conditions, associated with the mental infirmity that brought the cases to the institution.

The industrial features of our system of training and education have been made more prominent during the past year than ever before, and with better shop accommodation now in preparation we hope to provide more occupation for the boys in the winter season than ever before. So, too, the additions to our laundry building or south wing, when completed, will enable us to give a greater variety of instruction in household occupations than ever before.

Each year our older pupils become more capable of assisting in household matters and in the care of the younger and more helpless pupils.

As an illustration of this fact, I may mention that the paid employes in our laundry are no more now than in the early history of the asylum, when we had but sixty pupils.

We continue to receive testimonials to the value of the service rendered our pupils not only from the friends of the paying pupils but from county officials who have sent pupils to the institution.

There are now 226 pupils connected with the institution, of whom 223 are actually present.

The asylum has now been twenty-five years in operation. It has admitted 748 pupils, with every degree and shade of idiocy. Of this total number sixty-four have died in the institution. About the same number have been dismissed in accordance with its by-laws. These provide that all cases which prove unteachable, after a fair trial, by reason of organic disease of a serious character, or are confirmed epileptics or insane, or finally so deformed or paralyzed that they cannot be brought under any system of training and education, shall be dismissed. Some pupils have been taken away whose friends have removed to other States.

About half of the entire number have gone out from the asylum after receiving its benefits in varying degrees, depending upon the degree of mental deficiency, but all improved in habits, more intelligent and self-helpful.

These results attained are designedly expressed in very moderate terms. It was remarked, in the very first report of this institution, that there was no expectation on the part of its friends that any system of training or instruction, however wisely planned or skillfully carried out, could create or supply faculties absolutely wanting. In this case, as in that of children of ordinary endowments, it is the work of instruction to draw out and strengthen what there may be of mental capacity and mental force. In the case of idiocy, greater or less, there is a default or failure of development under ordinary influences, educational or otherwise, and as a result those who are their natural care-takers fail in their endeavors to improve their wards and soon cease their efforts. But the misfortune does not stop here. Without some occupation of the natural human faculties, the child is subject to the incoming and growth of habits that tend to still greater apathy or misdirected and eccentric impulses and passions; in short, to mental and moral deterioration.

Under the system of training and management adopted in this and kindred institutions, special means and appliances are brought to bear upon the pupils, that prompt and stimulate the exercise of faculties and powers that otherwise would have remained dormant. The principle and methods adopted for accomplishing this work and the special results obtained, have been so often set forth in former reports, that it is not necessary to repeat them here.

This much may, however, be said, that keeping in mind its real object, namely, the substitution of proper and orderly habits for their opposites, the development of some capacity and willingness for useful occupations, in the place of a willess or perverse inertia, and finally the cultivation of some sense of moral responsibility and obedience; no one can visit this institution without being satisfied that in the case of a majority of the pupils, the results accomplished are most desirable.

The question in the mind of any visitor can only be, as to the range of cases that should be submitted to efforts of positive instruction. In other words, where, in the range of idiocy, the line should be drawn between such efforts and provision merely for care and custody.

Whenever the State shall supplement this, which was designed as an educational establishment, by the erection of another for custodial purposes only, this line would soon be practically determined. Till then, in this institution, we shall be more or less embarrassed by a small per centage of cases, of whom it can only be said that a residence here is a great comfort and relief to those who would otherwise be compelled to minister, in an imperfect way, to their needs.

It is not lightly to be affirmed that all of this class, any more than of any other of the so called dependent classes, that they should all be gathered into asylums specially provided for them. To whatever extent, it may be added, provision shall be made hereafter for their management and care collectively, the experience of this institution affords the evidence that it can be done without any very great expense either in the way of construction or support.

Since our last report two new institutions for idiots have been established in America — one in Iowa and another in Canada.

In the month of September we were favored by a visit from the medical superintendents of two English asylums for idiots — Dr. Shuttleworth, of the Royal Albert Asylum for Idiots, at Lancaster, and Dr. Beach, of a new asylum for idiots at Lower Clapton, London.

They made quite an extended tour in this country, visiting every institution for idiots in the United States. They kindly expressed their gratification with what they witnessed in American institutions. Such visits, from those who can appreciate the nature of the work and the results accomplished, are always very satisfactory to the parties visited, and serve to give renewed interest to labors that at times and in individual cases are not always hopeful.

It has been the good fortune of this institution from the beginning to retain for long periods the services of its officers and employes of every kind. Each year there have been but slight changes in the staff of assistants. This is an evidence that the service rendered has been satisfactory to myself, who have had the immediate charge of the asylum from the outset; but I avail myself of this annual opportunity to express my renewed obligations to the various members of my official family, and to all my assistants of every degree, for the intelligence, fidelity and loyalty to the institution that they have uniformly shown.

H. B. WILBUR,
Superintendent.

SYRACUSE, *October*, 1876.

TREASURER'S REPORT.

Allen Munroe, Treasurer of the New York Asylum for Idiots, in account current with the State of New York, for cash received and expended for the general supplies, and the salaries and wages of officers, teachers, attendants and servants of said asylum, during the year ending September 30, 1876.

1875.	Dr.	
October 1.	To cash from State Treasurer	$9,000 00
	To cash from Kings county treasurer	400 50
December 31.	To cash from State Treasurer	9,000 00
1876.		
April 1.	To cash from State Treasurer	9,000 00
June 30.	To cash from State Treasurer	9,000 00
Feb. and Mar.	To cash from county treasurers for clothing State pupils	2,627 15
	To cash from pay pupils, board, instruction, board	5,961 71
1875.		
October 1.	In hands of Treasurer (balance in bank),	231 95
	In hands of superintendent for contingent expense	396 96
		$45,617 77

1876.	Cr.	
January 1.	By cash paid on warrants of executive committee quarter ending December 31, 1875	$10,558 32
April 1.	By cash paid on warrants of executive committee quarter ending March 31, 1876	9,425 97
July 1.	By cash paid on warrants of executive committee quarter ending June 30, 1876	9,921 21
September 30.	By cash paid on warrants of executive committee quarter ending September 30, 1876	8,228 69
	Sundry bills paid by steward during year,	6,326 52
October 1.	Balance in hands of superintendent	32 15
	Balance in hands of bank treasurer	1,124 91
		$45,617 77

APPENDIX.

EXTRACT FROM THE BY-LAWS OF THE ASYLUM.

"The design and objects of the asylum, as established by the action of the Legislature, are not of a custodial character, but to furnish the means of education to that portion of the youth of the State not provided for in any of its other educational institutions. Those only will, therefore, be received into the asylum who are of a proper school-attending age, and for such periods of time as shall, in the estimation of the board of trustees, suffice to impart all the education practicable in each particular case, and in conformity with the regulations hereinafter specified.

"Children between the ages of seven and fourteen, who are idiotic, or so deficient in intelligence as to be incapable of being educated at any ordinary school, and who are not epileptic, insane or greatly deformed, may be admitted by the superintendent, with the advice and consent of the executive committee. Applications in behalf of others shall be referred to the action of the board of trustees.

"The parents or next friends of those in whose behalf applications are made for admission as pupils shall make answers in writing to such questions as the superintendent and committee shall prescribe. They shall, moreover, if of sufficient ability, engage to pay such reasonable sum for the education and support of the pupils and to furnish them with such proper clothing while in the institution, as shall be stipulated by the superintendent, and they shall in all cases be bound to receive them back, when required, free of expense to the asylum. But no idiots shall be received into the asylum without there shall have been first lodged with the superintendent thereof a request to that effect, under the hand of the person by whose direction he is sent, stating the age and place of nativity, if known, of the idiot, his christian and surname, the town or city and county in which they severally reside, the ability, or otherwise, of the idiot, his parents or guardians, to provide for his support, in whole or in part; and if in part only, what part and degree of relationship, or other circumstances or connection between him and the person requesting his admission; which statement shall be verified in writing by the oath of two disinterested persons, residents of the same county with the idiot, acquainted with the facts and circumstances so stated, and certified to be credible by the county judge of the same county. And no idiot shall be received into said asylum, unless the county judge of the county liable for his support shall certify that such idiot is an eligible and proper candidate for admission to said asylum as aforesaid.

"The State pupils in the asylum will be selected in equal numbers, as far as may be, from each judicial district, from those whose parents or guardians are unable to provide for their support therein.

"The State pupils will be expected to come to the asylum provided with a supply of neat and substantial clothing for the first six months, after which period the clothing will be furnished by the asylum, at the expense of the respective counties of which they are residents, as in the case of the deaf and dumb, and the blind asylums of the State.

"A bond will be required in all cases, except the case of a State pupil, to insure the removal of the pupil free of expense to the institution.

"All pupils will be received upon trial for one month, at the end of which time a report upon the case will be made to the parents or parties sending them.

"The education furnished by the institution will include, not only the simpler elements of instruction usually taught in common schools, where that is practicable, but will embrace a course of training in the more practical matters of every day life, the cultivation of habits of decency, propriety, self-management and self-reliance, and the development and enlargement of a capacity for useful occupation.

"There shall be a vacation during the whole month of August, unless otherwise directed by the board, at which period all pupils must be removed from the asylum by the parents or guardians, if required by the superintendent.

"Applications for admission to the asylum, stating age, sex, general health, and such other particulars as will enable the trustees to judge of the teachableness of the person for whom application is made, must be directed to the superintendent, Dr. H. B. Wilbur."

It will be seen by reference to the foregoing, just what the mode of admission is. Application is first made to the superintendent of the asylum, furnishing such particulars of the condition of the person for whom application is made as will enable the executive committee to decide whether the party is a suitable subject for admission.

If the case come within the purpose of the institution, a blank form of application is at once sent, which, when filled up and returned to the superintendent, furnishes a statement of the name, residence, etc., of the party, and his or her pecuniary condition, or the pecuniary condition of his or her parents, verified by the affidavit of two persons acquainted with the circumstances related in the statement, and confirmed by the certificate of the county judge.

On the return of this circular, if there is a vacancy from the judicial district in which the party resides, permission is at once given for his or her admission.

If no vacancy exists at the time, the parties interested are so notified, and the application is filed, the applicant to receive the benefit of the first vacancy, in turn.

It is provided in the by-laws that each pupil shall be taken on trial. The probationary period named is one month. The practice has been otherwise. The cases rejected on trial have usually been retained a much longer period; at all events, till it was certain they were not suitable subjects for improvement.

The grounds upon which pupils have been dismissed under the rule hitherto have been, first, serious ill-health that seemed likely to terminate in a speedy death. In most of the cases included under this head, the wisdom of the decision requiring their removal has been verified by the fact that they died not many months afterward. Next, confirmed epilepsy. When this disease has been fully developed, the same reasons that suggested the article in the by-laws against the admission of epileptics would require their dismissal.

Again, true dementia, or a loss of mind resulting from organic lesion of the brain, as a consequence of some disease in infancy or childhood.

Again, cases of idiocy conjoined with insanity. In these, the very measures of management and instruction adopted in the case of idiocy only excite and aggravate the peculiarities presented; and as there is no proper provision in this institution for confinement, seclusion or restraint, their dismissal is rendered unavoidable.

In a few cases only it could be said that all efforts to educate or radically improve, that the asylum afforded had failed of their purpose.

TENTH ANNUAL REPORT

OF THE

MANAGERS

OF THE

HUDSON RIVER STATE HOSPITAL,

For the Year 1876.

TRANSMITTED TO THE LEGISLATURE JANUARY 11, 1877.

JEROME B. PARMENTER, STATE PRINTER.
1877.

OFFICERS OF THE HOSPITAL.

MANAGERS:

Abiah W. Palmer, - - - - - - - Amenia.
Cornelius R. Agnew, - - - - - - - New York city.
Amasa J. Parker, - - - - - - - Albany.
Edward L. Beadle, - - - - - - - Poughkeepsie.
Joseph Howland, - - - - - - - Matteawan.
Charles Wheaton, - - - - - - - Poughkeepsie.
Odell S. Hathaway, - - - - - - Newburgh.
James Roosevelt, - - - - - - - Hyde Park.
Frederick D. Lente, - - - - - - Cold Spring.

TREASURER:

James H. Weeks, - - - - - - - Poughkeepsie.

RESIDENT OFFICERS:

J. M. Cleveland, *Medical Superintendent.*
A. O. Kellogg, *First Assistant Physician.*
C. H. Langdon, *Second Assistant Physician.*
Robert Roberts, *Steward.*

STATE OF NEW YORK.

No. 17.

IN ASSEMBLY,

January 11, 1877.

TENTH ANNUAL REPORT

OF THE

MANAGERS OF THE HUDSON RIVER STATE HOSPITAL.

POUGHKEEPSIE, *January* 8, 1877.

To the Hon. GEORGE B. SLOAN, *Speaker of the Assembly:*

SIR.—Herewith is submitted the annual report of the Managers of the Hudson River State Hospital.

Very respectfully yours.

ABIAH W. PALMER.
CORNELIUS R. AGNEW.
AMASA J. PARKER.
EDWARD L. BEADLE.
JOSEPH HOWLAND.
CHARLES WHEATON.
ODELL S. HATHAWAY.
JAMES ROOSEVELT.
FREDERICK D. LENTE.

REPORT.

To the Legislature:

The managers of the Hudson River State Hospital herewith present their tenth annual report.

The number of patients in the hospital on the 1st of December, 1875, was 186. During the year covered by this report, 153 were admitted, making a total of 339 under treatment. The discharges were 132, recorded as follows: Recovered, twenty-nine; improved, twenty-two; unimproved, forty-nine; not insane, two; died, thirty.

Since the opening of the hospital on the 18th of October, 1871, 893 patients have been received. Of this number, 226 have been discharged as recovered; ninety-six as improved; 239 as unimproved; four as not insane; and 120 have died. Of those discharged, as "improved and unimproved," 113 were removed by county officers to the Willard asylum; sixty-three to county-houses; three to the emigrant asylum; four to the State Homœopathic asylum; one to Providence asylum; two to city alms-house; one to Fordham Home for Friendless; one to Pennsylvania hospital for insane; one to Blackwell's Island; one to Marshall infirmary; one unascertained; and 144 returned home.

The customary statistics for the year are presented in the following report of the medical superintendent:

To the Managers:

The accompanying tables, compiled from the records of the hospital, present the "principal facts and results" of the year ending November 30, 1876.

TABLE *showing the movement of the population.*

	Men.	Women.	Total.
Number at beginning of the year	86	100	186
Admitted in the year	88	65	153
Total present in the year	174	165	339
Discharged recovered	18	11	29
Discharged improved	9	13	22
Discharged unimproved	17	32	49
Discharged, not insane	2	...	2
Died	22	8	30
Remaining at the end of the year	106	101	207

TABLE *showing the form of mental disease in 153 cases.*

	Men.	Women.	Total.
Acute mania	17	10	27
Sub-acute mania	1	3	4
Chronic mania	5	7	12
Paroxysm mania	6	7	13
Puerperal mania	..	1	1
Melancholia	15	25	40
Dementia	20	8	28
General paresis	22	2	24
Imbecility	..	1	1
Idiocy	..	1	1
Not insane	2	..	2
Total	88	65	153

TABLE *showing the duration of insanity previous to admission, and the period under treatment, in twenty-nine cases discharged recovered.*

	BEFORE ADMISSION.			UNDER TREATMENT.		
	Men.	Women.	Total.	Men.	Women.	Total.
One week	6	2	8	..	..	..
Two weeks	1	1	2	..	..	..
Three weeks	3	1	4	..	..	..
Four weeks	..	1	1	..	..	..
Five weeks	2	1	3	..	..	..
Six weeks	1	3	4	..	..	..
Two months	1	1	2	2	1	3
Three months	2	..	2	1	..	1
Four months	1	1	2	4	1	5
Five months	..	..	..	1	1	2
Six months	..	..	..	2	1	3
Eight months	..	..	..	..	2	2
Nine months	..	..	..	1	1	2
Ten months	..	..	..	1	..	1
Twelve months	..	..	..	1	..	1
Fourteen months	..	..	..	1	..	1
Fifteen months	..	..	..	1	..	1
Sixteen months	..	..	..	1	..	1
Eighteen months	..	..	..	1	1	2
Nineteen months	..	..	..	..	1	1
Twenty months	..	..	..	1	..	1
Twenty-two months	..	..	..	..	1	1
Twenty-five months	..	..	..	..	1	1
Unascertained	1	..	1	..	..	..
Total	18	11	29	18	11	29

TABLE *of probable exciting causes in those admitted during the year.*

	Men.	Women.	Total.
Loss of sleep	12	8	20
Epilepsy	6	8	14
Injury to head	6	1	7
Change of life	..	6	6
Puerperal	..	7	7
Phthisis pulmonalis	2	4	6
Intemperance	5	1	6
Sunstroke and exhaustion from heat	4	2	6
Ill health	2	2	4
Apoplexy	2	..	2
Pneumonia	1	..	1
Business losses	2	..	2
Masturbation	5	..	5
Syphilis	1	1	2
Not insane	2	..	2
Unascertained	38	25	63
Total	88	65	153

TABLE *showing the nativity of those admitted.*

New York	89
Ireland	37
Germany	8
Pennsylvania	3
Scotland	3
France	3
Canada	2
England	2
Greece	2
Austria	1
South Carolina	1
Vermont	1
Massachusetts	1
Unascertained	2
Total	153

TABLE *showing the statistics of hereditary transmission in* 153 *cases.*

Where found.	Men.	Women.	Total.
Paternal branch	7	5	12
Maternal branch	9	8	17
Maternal and paternal branches	1	1	2
Insane relations	7	7	14
Total	24	21	45

TABLE *showing the civil condition of those admitted.*

	Men.	Women.	Total.
Married	47	32	79
Single	33	24	57
Widowed	7	9	16
Unascertained	1	..	1
Total	88	65	153

TABLE *showing the degree of education of those admitted.*

	Men.	Women.	Total.
Common	64	55	119
Collegiate	3	..	3
Academic	2	1	3
Reads and writes	1	..	1
Reads	2	1	3
None	13	7	20
Unascertained	3	1	4
Total	88	65	153

TABLE *showing the occupations of those admitted.*

Housekeepers	36
Housework	18
Laborers	18
Farmers	12
Farm laborers	8
No occupation	5
Clerks	3
Book-keepers	3
Teachers	3
Gardeners	3
Carpenters	3
Grocers	2
Boatmen	2
Blacksmiths	2
Hotel-keepers	2
Peddlers	2
Physician	1
Artist	1
Dentist	1
Broker	1
Druggist	1
Merchant	1
Insurance agent	1
Seaman	1
Cook	1

Laundress	1
Servant	1
Coachman	1
Seamstress	1
Fisherman	1
Barkeeper	1
Worker in brass	1
Worker in iron	1
Saddler	1
Printer	1
Weaver	1
Baker	1
Tanner	1
Cigar maker	1
Cabinet maker	1
Carriage maker	1
Miner	1
Factory operative	1
Schoolboy	1
Unascertained	3
Total	153

TABLE *showing the duration of insanity, previous to admission, in 153 cases.*

	Men.	Women.	Total.
One month	21	13	34
Two months	10	8	18
Three months	4	4	8
Four months	..	4	4
Five months	4	1	5
Six months	7	..	7
Seven months	..	2	2
Eight months	2	3	5
Nine months	1	1	2
Ten months	1	..	1
Eleven months	1	..	1
Twelve months	4	7	11
Fourteen months	..	1	1
Fifteen months	1	..	1
Eighteen months	2	..	2
Two years	4	3	7
Three years	4	2	6
Four years	..	1	1
Five years	2	1	3
Six years	3	..	3
Ten years	3	..	3
Fourteen years	1	..	1
Fifteen years	..	2	2

	Men.	Women.	Total.
Eighteen years	..	1	1
Twenty-five years	..	2	2
Thirty years	1	1	2
Thirty-three years	1	..	1
Thirty-five years	..	1	1
Forty-three years	..	1	1
Not insane	2	..	2
Unascertained	9	6	15
Total	88	65	153

TABLE OF MORTALITY,

Showing the causes of death in the thirty who died during the year, and the form of insanity in each at the time of admission.

Form of Insanity at Time of Admission.			Phthisis pulmonalis.		Exhaustion from mental disease.		General paresis.	Heart disease.	Epilepsy.	Compression of brain.	Old age and exhaustion.	Meningo-cephalitis.	Pneumonia,	Cervical abscess.	Syphilitic disease of brain.
	Men.	Women.	Men.	Women.	Men.	Women.	Men.	Men.	Men.	Men.	Women.	Men.	Men.	Women.	Women.
Acute mania	4	4	1	..	1	3	..	1	..	1	..	..	..	..	1
Paroxysmal mania	3	..	..	..	..	..	..	..	3	..	..	..	..	..	..
Chronic mania	1	2	..	1	..	..	..	..	..	..	1	..	1	..	..
Melancholia	3	2	1	1	..	..	..	..	..	..	..	1	1	1	..
Dementia	2	..	1	..	..	..	..	1	..	..	..	..	..	..	..
General paresis	9	..	..	..	..	..	9	..	..	..	..	..	..	..	..
Total	22	8	3	2	1	3	9	2	3	1	1	1	2	1	1

J. M. CLEAVELAND.

November 30, 1876.

The managers would make grateful mention of the exemption of the hospital, during the year, from epidemic diseases, and from accidents, notwithstanding the overcrowded condition of the wards. The men patients have had the advantages of out-door life and exercise, and all who were able to work have found employment upon the farm, or in making roads and grading and improving the grounds, In the "east and west section," now building, workshops are provided for patients during the winter months.

Since the date of our last report the fourth section has been carried up and nearly completed. The plans for the kitchen block, the east and west section, the vegetable cellar and loft, and the exercise yard, have been approved by the State officers, and the contract for building let to the lowest bidder. The plan for the center building was also approved, and the contract let for building the same, as high as the second story window sills. The report of the building superintendent hereto annexed, gives the prices at which the contracts were let, and the progress made in the several works. The amounts drawn by the managers from the appropriations for these constructions, and the amounts paid, are given in detail in our treasurer's statement. These payments may be briefly stated as follows:

Salary of James S. Post, building superintendent.....	$4,000 00
James S. Post, for traveling expenses and clerk hire..	649 30
Albany Evening Journal, printing..................	25 50
E. B. Osborne, printing...........................	19 12
Platt & Platt, printing............................	49 00
Jno. O. Whitehouse, printing.......................	218 00
Western Union Telegraph Company................	3 86
John H. Kimlin, on contract, for section four........	87,631 90
George E. Broas, on contract, for kitchen block, east and west section, vegetable cellar and loft, and exercise yard....................................	44,197 80
Rutzler & Ives, on contract, heating section four.....	5,055 95
William C. Arnold & Co., lumber bill..........	500 00
Collingwood, Millard & Co., lumber bill............	1,627 07
	$143,977 50

The receipts and expenditures under the maintenance account for the past year, were as follows:

Received from the Comptroller for officers' salaries...	$8,431 44
Received from counties and individuals for board of patients..	57,637 63
Received from sales and other sources.............	1,837 03
	$67,905 10

PAYMENTS CLASSIFIED FROM THE ANALYSIS OF VOUCHERS.

Beef, mutton and lamb................	$8,917 28
Hams, shoulders and bacon............	485 59

Fresh and salt fish	$1,605 29	
Poultry	86 82	
Tea	460 97	
Coffee	898 10	
Sugar, syrup and molasses	1,251 03	
Butter, cheese and lard	2,888 35	
Milk	151 50	
Rice	132 29	
Beans and peas	25 59	
Bread, crackers and cake	1,010 61	
Confectionery	52 78	
Flour	2,142 72	
Oat, corn meal, hominy, etc	368 84	
Apples	61 60	
Potatoes	390 50	
Vegetables	117 49	
Fruit, lemons and oranges	206 08	
Canned fruits, etc	73 82	
Flavoring extracts	86 47	
Salt, pepper and spices	151 84	
Pickles	10 50	
		$21,576 06
Ale	$768 70	
Whisky	112 41	
Wine	81 62	
Medical sundries	546 07	
Medical supplies	274 03	
Medical and surgical instruments	29 65	
Medical and surgical appliances	114 15	
		1,926 63
Toilet articles	$42 75	
Polishing material	45 45	
Soap	491 94	
Oils, candles and matches	421 78	
Alcohol	106 25	
Vinegar	65 07	
Tobacco	334 80	
Ice	82 65	
House fuel	1,011 18	
Sundry stores	74 34	
		2,676 21
Laundry fuel	$114 40	
Starch, bluing and soda	416 23	
Laundry service	1,476 60	
		2,007 23
Pump-house fuel	$398 00	
Pump-house service	350 33	
		748 33
Gas-house fuel	$72 40	
Rosin	232 68	

Gas-house service	$411 80	
		$716 88
Boiler-house fuel	$8,893 49	
Oil for engine and shafting	219 34	
Boiler-house service	2,666 95	
		11,779 78
Farm stock	$100 00	
Farm feed and produce	2,746 74	
Farm harness, wagons, etc	678 15	
Farm horse shoeing	170 74	
Farm implements	98 55	
Farm seeds and plants	198 24	
Farm supplies	91 43	
Farm and garden service	2,662 70	
		6,746 55
Stable stock	$15 00	
Stable feed	465 17	
Stable harness and equipment	550 73	
Stable horse shoeing	104 25	
Stable supplies	15 33	
Stable service	600 00	
		1,750 48
Postage, telegrams and express charges	$257 73	
Traveling expenses	223 26	
Carriage hire	476 03	
Office expenses	735 64	
Office supplies	172 43	
Library	236 45	
Patients' petty expenses	63 34	
Amusements	132 26	
Moneys returned	46 50	
		2,343 64
Medical service	$480 00	
Store service	648 00	
Clothing service	762 00	
Kitchen service	2,168 00	
Bake shop service	502 17	
Yard man service	455 00	
Attendants' service	8,099 32	
		13,114 50
Furniture	$312 07	
Furniture repairs	131 90	
Furnishing	252 53	
Blankets and bedding	374 22	
Crockery and glassware	59 00	
Plated ware	147 92	
Globe chimneys, etc	44 15	
Brooms, brushes, etc	434 69	
Kitchen utensils	498 52	
Kitchen supplies	64 33	
		2,319 33

Clothing	$2,218 47	
Clothing supplies	91 82	
Dry goods	301 92	
Fire apparatus	312 32	
Stoves and pipe	15 15	
Undertaking	268 10	
		$3,207 78
Lumber	$406 62	
Lime and cement	19 94	
Hardware	185 99	
Glass	22 62	
Painting material	171 94	
Plumbing material	114 72	
Gas fixtures	101 70	
House repairs	785 81	
Jobbing	164 23	
Out-buildings	163 39	
		2,136 96
Boiler-house machinery	$130 38	
Shafting and belting	6 50	
Heating and ventilating apparatus	325 22	
Boiler-house implements	30 00	
		492 10
Pump-house machinery	$223 87	
Reservoir implements	11 00	
Water and sewerage works	61 32	
		296 19
Laundry machinery		156 84
Gas making apparatus		154 74
Interest paid bank		870 63
Total		$75,020 86
For officers' salaries		*$8,431 44

The present indebtedness of the hospital is as follows: Unpaid vouchers, $12,546.42; due treasurer, $27,417.71; total, $39,964.13. Against this there are bills due and payable from the counties October 1, 1876, amounting to $31,043.54. Unfortunately a reappropriation of $12,628.85 made by the last Legislature, and which the managers had hoped to apply to deficiency in maintenance account of the previous year, was not properly worded in the supply bill. A reappropriation of this money to cover deficiencies in maintenance account is respectfully requested. In addition to this the following appropriations will be required: For equipment of section four, the east and west section, and the kitchen block, $10,000; for gas fixtures for the same, $350; for hose and fire apparatus, $500; for equipment of amusement room, benches, etc., $550; for equipment of central building, $7,000; for line fences, $1,500; for grading and grounds, $600.

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* $431.44 of this was paid on salary of second assistant physician, due the preceding fiscal year.

The building superintendent has submitted estimates of the amounts needed for carrying on the work under his direction during the ensuing year, as follows: For the center building (the same to be completed January 1, 1878), $95,000; steam heating and hot water boiler for same, $10,000; plumbing the same, $9,500; lowering and resetting boilers, setting another boiler, and building coal vaults, $14,000, and reappropriations amounting to $33,726.

The last report of the Board of State Charities quotes from its report of the preceding year as follows:

"This result (to provide for the chronic insane) may be attained by the establishment of two or three additional asylums in different parts of the State, on the plan and character of the Willard asylum, or by engrafting the principles of that institution upon all the State asylums, now having the care of acute cases only. The latter plan is recommended by the board as being much more economical for the State, and well designed to meet the wants of this class of insane. It will require the erection of no expensive buildings for offices, and for the separate treatment of violent cases, as the asylums referred to already have these accommodations. It will insure to the chronic insane the best medical skill without additional expense, and also save the large sums now paid for the transfer of this class from the asylums for acute cases to the counties or the asylums for the chronic cases.

"To carry out this plan will require only the erection of cheap detached buildings, which will furnish suitable accommodations for the chronic insane at the lowest possible expense. Such buildings have been erected of brick at the Willard asylum at a cost of about $500 for each inmate. These have been in use for a considerable time, and found to be wholly adequate and proper. When the other asylums thus provide for their chronic insane, and apply the rate for maintenance to counties, as charged at the Willard asylum, that institution might be allowed to receive its proportion of acute cases. This would bring all the asylums under one plan, and result in great convenience and saving to the counties, and be advantageous to the State."

The managers of this hospital, in former reports to the Legislature, have urged that a similar policy be adopted in the institution under their charge; and, in connection with the gratifying indorsement of their views by the Board of State Charities, they reproduce what was said on this subject in their last annual report to the Legislature.

"In consequence of the wholly inadequate provision thus far made by the State for its chronically insane, some counties have erected special receptacles for that class of sufferers, and other counties are debating the question whether that is the best thing which they can do. To us this mode of procedure is far from seeming expedient. It involves, at the outset, a burdensome expense in erecting and furnishing a structure. From the nature of the case, a small county establishment can command, only to a very limited degree, the dietary and medical and sanitary advantages of a large and properly sustained hospital. All experience has shown that such institutions, when under city or county direction, become, to a great extent, objects of partisan contention and control, and are consequently liable to gross neglect and shameful abuses. That the aggregate expense of constructing, furnishing, manning and maintaining a large number of these minor and comparatively inefficient establishments, would greatly exceed the cost of treatment and support in a large, well appointed and well conducted State hospital, may easily be demonstrated. A general adoption of the system would be a heavy additional expense, not to the county only, but the entire commonwealth, unless, indeed, it can be shown that the counties are not a part of the State. This objection to the plan would be of less weight, nay, it might even be counter-balanced, were it possible to show that the condition of the unfortunate persons immediately concerned, would thereby be made more desirable than in the other case named. But suppose that the tendencies and probabilities are all the other way, how would it be then?

"In no way, as it seems to us, can the State so effectually, and so economically provide for the large and ever increasing class of unfortunates referred to above, as by means of a supplementary establishment upon the Hudson River Hospital ground.

"To this idea, as it was presented in the managers' report for 1869, and also in the report for that year of the medical superintendent, we would once more call the attention of the Legislature and of the people of New York. In so doing we can but repeat what was said six years ago.

"In considering the question now before us, the conclusion to which we have come, justified, as it is seems, by reason and by fact, is in favor of the mixed asylum; or rather of the hospital, which includes and covers all classes and cases of insanity. In such an institution provision will first be made for all new and acute cases, and nothing should be spared which experience has shown to be beneficial. For the chronic and the milder form, structures more simple and less expensive, would answer every purpose. These might be in the hospital pavilion style, with low connecting corridors, admitting of extension and repetition, as occasion should require. The same farm, garden, laundry, bakery, gas-house, slaughter-house, water and sewage-works, wharf, roads, etc., etc., would answer for all, and no separate staff of medical officers would be needed. In a hospital of this description, all marked distinction of classes, founded on the idea of incurability, should be sedulously avoided."

All of which is respectfully submitted.

ABIAH W. PALMER,
CORNELIUS R. AGNEW,
AMASA J. PARKER,
EDWARD L. BEADLE,
JOSEPH HOWLAND,
CHARLES WHEATON,
ODELL S. HATHAWAY,
JAMES ROOSEVELT,
FREDERICK D. LENTE,
Managers.

POUGHKEEPSIE, *December* 1, 1876.

TREASURER'S REPORT.

To the Managers of the Hudson River State Hospital:

The treasurer of the Hudson River State Hospital respectfully submits the following summary of his receipts and payments for the year ending November 30, 1876.

APPROPRIATION OF 1873.

1875.		
November 30.	Balance on hand at this date, as per my report, dated December 14, 1875....	$1,214 70

APPROPRIATION OF 1874.

November 30.	Balance due me at this date, as per my report of December 14, 1875.......	102 75
	Leaving on hand................	$1,111 95

In my report of December 14, 1876, I returned as paid, under this appropriation, voucher two, as not filed with the Comptroller; since then I have filed it in his office in Albany.

APPROPRIATION OF 1874.

Receipts.

1875.		
December 18.	Received draft from State Treasurer...	20,000 00
1876.		
January 14.	Received draft from State Treasurer...	20,000 00
March 25.	Received draft from State Treasurer...	20,000 00

APPROPRIATION OF 1875.

June 7.	Received draft from State Treasurer...	30,000 00
		$91,111 95

Paid.

1875.		
December 18 to Oct. 27, 1876.	Paid as per vouchers Nos. 3 to 25, inclusive, on file in the office of the Comptroller in the city of Albany........	93,096 68
1876.		
November 30.	Balance due treasurer...............	$1,984 73

APPROPRIATION FOR EAST SECTION.

October 9.	Received draft from State Treasurer for amount of appropriation...........	$20,000 00

Paid.

September 4 to October 27.	Paid vouchers Nos. 1 to 3, inclusive, on file in the Comptroller's office in the city of Albany....................	16,443 37
November 30.	Balance in treasurer's hands	$3,556 63

APPROPRIATION FOR BUILDING FENCE AROUND EXERCISE YARD.

September 19.	Received draft from State Treasurer...	$3,000 00

Paid.

September 23.	Paid voucher No. 1, on file in the Comptroller's office in Albany...........	$3,000 00

APPROPRIATION FOR KITCHEN BLOCK.

August 10.	Received draft from State Treasurer...	$5,000 00
September 13.	Received draft from State Treasurer...	21,000 00
	Whole amount of appropriation.......	$26,000 00

Paid.

September 4. to November 4.	Paid vouchers Nos. 1 to 3, inclusive, on file in Comptroller's office, in the city of Albany.......................	20,504 43
November 30.	Balance in treasurer's hands	$5,495 57

APPROPRIATION FOR VEGETABLE CELLAR AND LOFT.

November 4.	Received draft from State Treasurer...	$5,000 00

Paid.

October 27.	Paid voucher No. 1, on file in Comptroller's office in Albany..............	4,250 00
November 30.	Balance in treasurer's hands	$750 00

APPROPRIATION FOR STEAM HEATING, ETC.

October 9.	Received from State Treasurer.......	$12,000 00

Paid.

September 30 to Nov. 4.	Paid vouchers Nos. 1 and 2, on file in the Comptroller's office in Albany...	5,055 95
November 30.	Balance in treasurer's hands	$6,944 05

APPROPRIATION FOR FURNITURE, BEDS AND BEDDING.

Received draft from State Treasurer...	$5,000 00

SPECIAL APPROPRIATIONS.

I have on hand under the appropriation for water and sewerage, Laws of 1869, the sum of........................	$4 10
Under the special appropriation for repairs, chapter 715, Laws of 1871....	7 35

SUMMARY.

Received.

1875.			
November 30.	Balance on hand.....................		$1,111 95
	Received on appropriations of 1874 and 1875............................		90,000 00
	Received for appropriation for east section..............................		20,000 00
	Received appropriation for fence......		3,000 00
	Received appropriation for kitchen block...........................		26,000 00
	Received appropriation for vegetable cellar, etc.........................		5,000 00
	Received appropriation for steam heating, etc........................		12,000 00
	Received appropriation for furniture, etc..........................		5,000 00
	Received appropriation for water and sewerage......................		4 10
	Received appropriation for repairs....		7 35
			$162,123 40

Paid.

Paid under appropriations of 1874 and 1875......	$93,096 68	
Paid for east section......	16,443 37	
Paid for fence...........	3,000 00	
Paid for kitchen block....	20,504 43	
Paid for vegetable cellar, etc.................	4,250 00	
Paid for steam heating...	5,055 95	
		142,350 43
Whole amount or balance on hand..		$19,772 97

SPECIAL APPROPRIATION FOR COLLINGWOOD, MILLARD & CO.

1876.	Received draft from State Treasurer...	$1,627 07

Paid.

June 24.	Paid voucher No. 1, on file in the Comptroller's office in Albany...........	$1,627 07

OFFICERS' SALARIES.

November 30.	Received drafts from State Treasurer for officers' salaries for the year ending October 1, 1876	$8,431 44

Paid.

Paid officers' salaries for the year ending October 1, 1876, as per vouchers on file in Comptroller's office in Albany,	$8,431 44

Mem. — $431.44 of the above was paid on salary of second assistant physician due the preceding fiscal year.

MAINTENANCE ACCOUNT.

Paid.

1875. November 30.	Balance due treasurer		$11,871 51
1876. November 30.	Paid during the year ending with this date, as per vouchers Nos. 1 to 441, inclusive, on file with the board of managers		75,020 86
			$86,892 37

Received.

Received from counties for board of patients and articles furnished them for year ending with this date	$45,053 07	
Received from private patients for year ending with this date	12,555 13	
Received from sale of articles from place, etc., for year ending with this date	1,866 46	
		59,474 66
Balance due treasurer		$27,417 71

Mem. — There is due at this date from counties for bills due and payable October 31, 1876, the sum of $31,043 54

All of which is respectfully submitted.

J. H. WEEKS,
Treasurer.

POUGHKEEPSIE, *December* 18, 1876.

REPORT OF BUILDING SUPERINTENDENT.

HUDSON RIVER STATE HOSPITAL,
November 30, 1876.

To the Managers of the Hudson River State Hospital:

GENTLEMEN. — I respectfully submit the following report in relation to the buildings now in course of construction under my superintendence.

The contract with John H. Kimlin for finishing the fourth section is $114,250, of which he has received vouchers paid $87,631.90, leaving a balance yet due him of $26,618.10.

I thought it advisable to delay the finishing of the interior wood work on account of dampness in the walls. There remains, therefore, to be completed, several minor details, as follows, viz.: Hanging doors, planing floors, painting and oiling, and putting in ombra guards, all of which will be done during the winter. I would suggest that the ombra floors be laid with *tile*, and ask your consideration of the same.

The contract with Rutzler & Ives for finishing and putting up the steam heating apparatus in the fourth section is $7,274. They have received by vouchers paid $5,055.95, leaving a balance due them of $2,218.05.

The contract for the erection and completion of the section running east from the fourth section to the fan house was given to Geo. E. Broas for $20,900. He has received by vouchers $16,443.37, leaving a balance due him of $4,456.63.

The building is nearly completed. There remains yet to be finished the laying of the floors, hanging doors, painting and oiling, putting in window guards, and a part of the plumbing, all of which is being finished as fast as the walls will permit.

The contract for building a brick wall around the exercise yard, given to George E. Broas for $3,000, is completed, and Mr. Broas has received payment in full.

The contract with George E. Broas for the erection and completion of a vegetable cellar and loft for $5,000 is completed. There is yet due him from the treasurer $750.

The contract for erecting and completing the kitchen block was given to George E. Broas for $29,000. He has received vouchers paid $20,505.43, leaving a balance due him of $8,494.57.

There remains yet to be done, before completion, the laying of the tile in the kitchen, hanging doors, wainscoting the amusement room, laying floors, plumbing, building oven, painting and oiling, and putting in window guards.

The contract for erecting a portion of the center building was awarded to Mr. Elias Spross for the sum of $68,585. He has received vouchers to the amount of $27,375.55.

The foundations are all laid and the brick work is carried up three feet above the basement floors. All the timber and lumber necessary for the work is on the ground, and the stone work is being cut.

I hereby submit estimates of amounts needed for the work under my supervision for the year ending December 31, 1877:

For the center building (to be completed January 1, 1878), $95,000; steam-heating and hot water boiler for same, $10,000; for plumbing the same, $9,500; for lowering and resetting boilers, setting another boiler and building coal vaults, $14,000 — making a total of $127,500.

The sum of $26,000, of the appropriation of 1874, having lapsed, should be reappropriated for the construction contract of section four.

The unexpended balance, being $4,726, of the $12,000 appropriated in 1875 "for extending the heating and gas apparatus of the new section," should be reappropriated for steam-heating the east and west section and kitchen block. The $3,000 "for enlarging kitchen," passed in 1875, should be reappropriated for deficits and extras in kitchen block construction.

Respectfully submitted.

JAMES S. POST,
Building Superintendent.

STATE OF NEW YORK.

No. 18.

IN ASSEMBLY,

January 12, 1877.

SUPPLEMENTAL REPORT

OF THE COMMISSIONERS OF THE NEW YORK STATE REFORMATORY AT ELMIRA.

NEW YORK STATE REFORMATORY,
ELMIRA, *December* 31, 1876.

To the Board of Managers of the New York State Reformatory, Elmira:

GENTLEMEN.— Hereby I have the honor to present to you my report of the sanitary condition of the reformatory from August 9 to December 31, 1876.

The following is a tabular statement of the cases and persons prescribed for during that time:

Albuminuria (from excessive walking)	1
Bronchial catarrh	2
Blepharophthalmia	2
Concussion (general, by accidental fall)	2
Contusion of joints (by injury)	3
Diarrhœa	16
Epilepsy	2
Eczema (acute, of thighs)	1
Erytheura	1
Fistula (femoral, traumatic)	1
Hemorrhoids	4
Heart disease (organic)	5
Hernia (inguinal)	2
Hemicrania (from old fracture of skull)	1
Hematuria	1

Hemorrhage (pulmonary)	1
Liver—hypertrophy of, and chronic icterus	1
Myalgia	1
Neuralgia (facialis)	1
Orchitis (traumatic)	2
Pneumonia	1
Rheumatism (acute)	1
Rheumatism (gonorrhœal)	1
Stricture (gonorrhœal)	2
Syphilis (secondary)	5
Tuberculosis	3
Ulcer (indolent, of leg)	2
Varicocele	2
Wounded (by pistol balls)	2
Total	69

The inmates of the institution have not been visited by any epidemic or contagious disease, and from the nature of the diseases and infirmities, enumerated in the tabular statement, it may be justly inferred that the majority of them have been contracted by or have originated from the dissipated habits, exposure, etc., of the individuals concerned.

The cases of diarrhœa, having occurred during the past hot season, have, in the majority, been very mild.

During the past term there is no fatal case to be reported.

I am indebted to the superintendent and his subordinate officers for the kind assistance given to me in the discharge of my duties.

Respectfully yours.

L. VELDER, M. D.

STATE OF NEW YORK.

No. 19.

IN ASSEMBLY,

January 12, 1877.

REPORT

OF THE SUPERINTENDENT OF CONSTRUCTION OF THE NEW YORK STATE REFORMATORY AT ELMIRA.

To the Speaker of the Assembly:

SIR.— In pursuance of chapter 643 of the Laws of 1873, I have the honor herewith to transmit to the Legislature my annual report as Superintendent of Construction of the New York State Reformatory at Elmira.

With great respect, I am
Your obedient servant.
J. R. THOMAS,
Superintendent of Construction.

ELMIRA, *January* 10, 1877.

REPORT.

The superintendent appointed in pursuance of chapter 323 of the Laws of 1874, for the construction and completion of the New York State Reformatory at Elmira, respectfully submits the following report:

At the time of my last annual report (January, 1876), the buildings were at about the following state of completion, viz.: The south wing, guard-room building, offices, warden's residence, etc., were, as far as regards the construction of the buildings, nearly finished.

During the past year these have been entirely completed, including the putting in of the heating and ventilating apparatus.

The contracts which have been let for the construction of cells of north wing (including flagging-stone) and for a portion of outside walls of same, have been completed.

Contracts were also let for north wing, for a large portion of the balance of brick and cut-stone work; also for the floor timbers and iron columns in pavilions, and the iron and brick ceilings of corridors and pavilions; these have been completed, and the cells, walls and window openings sufficiently inclosed with boarding to protect the work during the winter.

The contracts which have been let during the past year were provided for by the appropriation of last winter, and as the law directs, the moneys received were disbursed by the board of managers appointed at that time.

The following statement exhibits the disbursements since the date of my last annual report to the present time:

Paid Baldus, Rumrill and Rupp, balance in full for guard-room building and south wing........	$9,475 70
Rumrill and Rupp, on account of contract for portion of north wing, and in full for cold-air ducts in south wing...	36,525 53
George Baldus, for doors, casings, base, wainscoting, etc., in corner pavilion of south wing and in center building....................	1,039 50
Turner and Pond, balance in full for iron railings, floors and stairs of cell galleries.............	3,977 77
Charles M. Tompkins, balance in full for flagging-stone for floors of corridors of south wing and guard-room	1,495 18
Lyman O'Brien, in full for flagging-stone for cells of north wing.............................	7,118 39
The Angell and Blake Manufacturing Company, on account for steam heating and ventilating of center building and south wing.............	12,547 16

Paid E. H. Cook & Co., for iron gas connections, registers, water and sewer pipes, labor, etc...		$273 64
Salary of superintendent of construction, assistants and janitor		3,575 28
For traveling expenses		84 36
For advertising and printing		220 52
George F. Danforth, in full for legal services in matter of Lord and Danolds		525 00
Night watchman at Reformatory		245 22
For coal, livery, gas, stationery and sundries....		419 48
Amount of previous disbursements, according to annual reports of 1875 and 1876		283,953 52
Total amount expended to date		$361,476 25
Cash on hand in bank		216 83
		$361,693 08
Appropriation of 1874	$300,000 00	
Appropriation of 1875, less amount paid by Comptroller, percentages to old contractors	61,693 .08	
		361,693 08

The above schedule embraces all of the disbursements under the appropriations of 1874 and 1875.

The disbursement of the appropriation of 1876 having been made under the direction of the board of managers appointed under the law of last winter, the accounts for same do not appear in this report.

In the contract made with "The Angell and Blake Manufacturing Company," for the steam-heating and ventilating apparatus of south wing and center buildings, is a clause reserving twenty per cent of the amount of contract until the apparatus can be tested for one winter season. This amounts to $2,899. There is also due Messrs. Rumrill and Rupp $2,500 for balance on contract made last winter for a portion of the superstructure of north wing, and $150 balance for basement of warden's residence, as per annual report of 1875.

These amounts should be provided for by the present Legislature, less the amount of $216.83 now on hand, as follows:

Amount due Rumrill and Rupp	$2,650 00
Amount which will be due the Angell and Blake Manufacturing Company	2,899 00
	$5,549 00
Less amount now on hand	216 83
	$5,332 17

The estimates of the appropriation required for the completion of the buildings of the reformatory being embraced in the report of the board of managers, it is not necessary to reproduce them here. The importance of their early completion must be obvious to all.

Since July last the office room occupied by the superintendent of construction has been at the reformatory building, and is used in conjunction with those of the board of managers and general superintendent, and at the time of the change the services of the clerk employed by him were dispensed with and such necessary work has been done by the clerks now in the employ of the general superintendent. It was found necessary to retain the deputy superintendent employed for the greater portion of the year.

The work for the completion of the balance of the buildings which includes the construction of the roofs of the north wing is of such a nature (being entirely work exposed to view) as to require more the services of a practical architect than those of a mere mechanic or deputy, therefore the balance of the work can be completed without tho assistance of a deputy superintendent, and the only expense connected with this office will be the salary of the superintendent of construction.

When entering upon the first duties of this office in the summer of 1874, the greatest obstacle to the proper and economical carrying out of the intention of the previous Legislature in relation to the erection of this reformatory, were contracts claimed to be held by Messrs. George D. Lord and Charles A. Danolds for the construction of a large portion of the main building and wings. It seemed evident that these contracts would not be applicable to the new plans which were of a much less ornate character than those first made and upon which they were based; it was therefore determined to advertise for new proposals and to let contracts for the carrying out of the new plans. Soon after this an injunction was served and a suit commenced by the above mentioned Lord and Danolds to compel the completion of the work according to the old contracts. After being argued in several courts, and each time being decided in favor of the defendants, it has, during the past year, been finally decided by the Court of Appeals in favor of the State, with costs.

This is a matter of great importance and should be fully understood by the Legislature, for by discarding the extravagant plans and by letting new contracts there has been saved to the tax-payers a sum fully equal to the whole cost of the reformatory buildings; but it must not be thought that this has been brought about without a great amount of extra labor, anxiety and vexation to the superintendent in charge.

This office was created for the "erection and completion" of the reformatory buildings, and will cease to exist with the completion of north wing, which, with the proper appropriations, will be during the coming summer or fall.

All of which is respectfully submitted.

J. R. THOMAS,
Superintendent of Construction.

ELMIRA, *January* 10, 1877.

SECOND ANNUAL REPORT

AND

DOCUMENTS

OF THE

Central New York Institution for Deaf Mutes

FOR THE

YEAR ENDING SEPTEMBER 30, 1876.

TRANSMITTED TO THE LEGISLATURE JANUARY 18, 1877.

JEROME B. PARMENTER, STATE PRINTER.
1877.

OFFICERS AND TRUSTEES.

PRESIDENT:
B. J. BEACH.

VICE-PRESIDENTS:
REV. THOMAS GALLAUDET, D. D.
W. J. P. KINGSLEY, M. D.

SECRETARY AND TREASURER:
JOHN G. BISSELL.

TRUSTEES:
B. J. BEACH.
B. H. WRIGHT, JR.
JOHN G. BISSELL.
W. J. P. KINGSLEY.
E. B. ARMSTRONG.
ALFRED SANDFORD.
EDWARD COMSTOCK.
B. W. WILLIAMS.
EDWARD HUNTINGTON.
D. P. McHARG.
THOMAS GALLAUDET.
ALFRED ETHRIDGE.
A. C. KESSINGER.
JAMES H. SEARLES.
THOMAS STRYKER.

EXECUTIVE COMMITTEE:
B. J. BEACH, *ex-officio.*
B. H. WRIGHT, JR.
JOHN G. BISSELL.
EDWARD HUNTINGTON.
D. P. McHARG.

LIST OF LIFE MEMBERS.

1874.

A. K. Adams.
Sanford Adams.
James Aikin.
E. B. Armstrong.
J. B. Barton.
B. J. Beach.
F. B. Beers.
G. N. Bissell.
John G. Bissell.
Calvert Comstock.*
Ed. Comstock.
I. Denio.
J. S. Dyett.
J. D. Ely.
Jas. Elwell.
A. Ethridge.
T. M. Flandrau.
John Groves.
C. M. Greene.
Geo. Hahn.
H. Hannahs.
J. S. Haselton.
Z. Hill.
J. S. Hovey.
Ed. Huntington.
B. N. Huntington.
J. B. Jervis.
G. W. Jones.
H. R. Jones.
J. R. Juliand.
John Kelley.
A. C. Kessinger.
C. F. Keith.
W. J. P. Kingsley.
H. M. Lawton.
R. E. Lee.
J. C. Longland.
G. H. Lynch.
D. P. McHarg.
Geo. Merrill.
I. T. Miner.*
P. H. Miner.
H. W. Mitchell.
J. L. Mudge.
N. Mudge.
M. McDonough.
J. S. Mowry.
T. G. Nock.
J. M. Orton.
D. B. Prince.
A. S. Roberts.
Ira L. Reed.
G. V. Selden.
J. H. Searles.
J. C. Smith.
M. W. Smith.
S. S. T. Smith.
W. W. Smith.*
E. L. Stevens.
S. B. Stevens.
H. L. Stillman.
Rev. Peter Stryker.
John Stryker.
Thos. H. Stryker.
A. Sandford.
R. W. Thomas.
J. Townsend.
A. P. Tuller.
David Utley.
S. G. Visscher.
Samuel Wardwell.
William Wardwell.
C. P. Washburn.
M. C. West.
B. W. Williams.
B. Huntington Wright.
J. Walker.
H. K. White.

1875.

D. F. Livermore.
John B. Morrow.
Wm. N. Smith.

* Deceased.

EDUCATIONAL DEPARTMENT.

Principal:

EDWARD BEVERLY NELSON, B. A.

Professors and Teachers:

ALPHONSO JOHNSON.*
WILLIAM MARTIN CHAMBERLAIN.
FORT LEWIS SELINEY.
HARRIET JANE ROE.
DORA HELEN HENDRICKS.

DOMESTIC DEPARTMENT.

Attending Physician:

THOMAS M. FLANDRAU, M. D.

Steward:

EDWARD B. NELSON.

Supervisor:

WILLIAM MARTIN CHAMBERLAIN.

Matron:

MRS. AMORETTE SMITH.

Assistant Matrons:

MISS KITTIE E. JACKSON.
MISS ELIZABETH MURPHY.

Housekeeper:

MRS. CHARLOTTE DAVIS.

Sewing Matron:

MISS EMILY HALSTED.

Nurse:

MRS. CHRISTINE ELIZABETH MULVIHILL.

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* Instructor of the advanced class.

STATE OF NEW YORK.

No. 20.

IN ASSEMBLY,

January 13, 1877.

ANNUAL REPORT

OF THE CENTRAL NEW YORK INSTITUTION FOR DEAF MUTES.

STATE OF NEW YORK:

Department of Public Instruction,
Superintendent's Office,
Albany, *January* 12, 1877.

Hon. George B. Sloan, *Speaker of the Assembly:*

Sir. — I have the honor to transmit herewith the second annual report of the Central New York Institution for Deaf Mutes.

Your obedient servant.

NEIL GILMOUR,

Superintendent.

REPORT.

The trustees of the Central New York Institution for Deaf Mutes respectfully present to the Legislature their second annual report, which is for the year ending with September, 1876:

The reports of the principal, of the treasurer and of the physician hereto annexed, are respectfully referred to for full information respecting the progress, condition and finances of the institution and the general health of its inmates.

The whole number of pupils in attendance September 30, 1875, was fifty-five. The whole number in attendance September 30, 1876, was eighty-three. The names of all the pupils in attendance during the year are given in an annexed statement, showing the town and county to which each belongs. Of the whole number forty-nine were supported by the State of New York; thrty-seven by the counties from which they came.

The total receipts of money since the school was opened in March, 1875, have been	$21,953 52
The total expenditures during the same period........	21,407 07
Cash in the hands of the treasurer, October 1, 1876 ..	546 45

The details are shown in the report of the treasurer.

It will be seen from the report of the principal that four dwelling-houses are now occupied by the institution, conveniently near to each other, and that all of them are filled to their utmost capacity, so that many applications for the admission of pupils have been necessarily refused. There are no other dwellings near that can be had for use.

A committee of the trustees appointed last fall to examine and report on permanent site and buildings, reported, in December last, that they had examined several proposed sites well suited for the purpose; that, on the whole, they recommended a block of land lying between Madison and Jay streets, in this city, not far from the present location, comprising six acres and sixty-five one-hundredths of an acre, not including in the measurement the streets bounding it on two sides; the whole block having a front on Madison street of 460 feet, and on Jay street of 520 feet, and being about 600 feet in depth from street to street; that they considered the ground suitable, the situation good, and the space sufficient for all the purposes of the institution, and that the owners were willing to give the land to the institution for its uses, the title, however, to revert to the donors or their heirs whenever it should cease to be applied to such uses. The report of the committee was approved by the board, and the very generous offer of the owners of the land preferred was gladly accepted, and the premises referred to were conveyed, free from incumbrance, to the institution, by Messrs. Benjamin N. Huntington and Edward Huntington and Mr. John B. Jervis, to whom they belonged in nearly equal shares, conditioned, however, that they were to be occupied for buildings and grounds for the maintenance and education of deaf mutes, and for no other purpose, and that the title should revert to the grantors or their heirs unless so occupied within five years from the date of the conveyance. These were dated January 18, 1876, and were duly recorded in the office of the clerk of Oneida county, January 24, 1876. The trustees have caused plans and estimates to be prepared for the erection of a permanent edifice on the said ground, sufficient to accommodate 200 pupils, but those plans and estimates are not fully completed at the date of this report.

The rent paid for the dwelling-houses now occupied is $1,650 per year, an item of expense which would be saved if the institution owned its own building.

There has been advanced to the institution, by individual donations and subscriptions, the sum of $6,098.75, all of which has been expended in furnishing the house now in use, and in paying expenses incurred before public aid was obtained. The value of the site given may be fairly set down at $1,000 per acre, or $6,650 — a low valuation as lots are held and have been sold in its vicinity. How to get the means to erect the necessary buildings is now the problem immediately pressing upon the consideration of the trustees. The furniture of the buildings now in use would be equally available in any new building that may be substituted for those. The trustees have no doubt that if they could offer accommodations for 200 pupils, they would speedily be filled by deaf mutes of the proper age for education, from counties to which this institution is more convenient of access than any other in the State provided for the education of such pupils.

The report of the physician exhibits a generally healthy condition of the inmates of the institution, and commends its healthy and agreeable location.

Mr. Thomas H. Stryker, the first secretary and treasurer, resigned his office February, 19, 1876, he being then about to leave the State for an undetermined period, and Mr. John G. Bissell was appointed in his stead, and has continued to discharge the duties of those offices down to the date of this report.

The increase in the number of pupils was so rapid the first year, and increased so much the duties and responsibilities of the principal, who also discharged the duties of steward and those of teacher of the most advanced class of the pupils, and the embarrassment experienced for the want of means of perfect communication between a deaf mute principal and those not accustomed to the language of deaf mutes, brought the trustees to the conclusion, in June last, that it was expedient to separate the department of instruction from the general charge and management of the institution; and that the latter should be committed to some person who, while familiar with the education and care of deaf mutes, should be able to hear and speak perfectly, and communicate on free and equal terms with all the world. At the request of the trustees, therefore, based on these considerations, Mr. Alphonso Johnson tendered his resignation of the office of principal on the 1st of July, 1876, to take effect on the 1st of September, 1876, and Mr. Edward Beverly Nelson, a graduate of Harvard College, and who has had several years experience as a teacher in the New York Institution for the Deaf and Dumb, and was strongly recommended from thence, was appointed principal, and entered upon the discharge of his duties as such on the 1st of September, 1876. Mr. Johnson continues to serve as instructor of the advanced class of pupils.

DATED *October*, 1, 1876.

By order of the trustees.

BLOOMFIELD J. BEACH,
President.

TREASURER'S REPORT.

To the board of Trustees of the Central New York Institution for Deaf Mutes:

GENTLEMEN.— In compliance with your requirements, I have the honor to report the following receipts and disbursements for the eighteen months ending September 30, 1876.

RECEIPTS.

Membership.

From donations and individual subscriptions		$6, 098 75
From Comptroller State of New York, board and tuition State pupils		10, 982 51
From paying pupil board and tuition		300 00
From parents and friends for children's clothing.....		79 76
From treasurer's of the following counties for support of county pupils :		
Oneida county	$1,500 00	
Onondaga county.........................	300 00	
Rensselaer county	300 00	
Cayuga county...........................	300 00	
Oswego county...........................	300 00	
Monroe county...........................	292 50	
Wayne county	300 00	
Yates county............................	300 00	
Madison county	300 00	
Chemung county	300 00	
Lewis county	300 00	
		4,492 50
		$21,953 52

EXPENDITURES.

Salaries and Wages.

Principal, teachers, matrons and servant.............	$5,584 00

Labor.

Temporary help about houses and grounds	358 63

Rents and Insurance.

J. H. Searles	$890 00	
Simeon Jones	250 00	
R. E. Rauscher	320 84	
Smith, Pond & Co	10 00	
		$1,470 84
		$7,413 47

Furniture and Fixtures.

D. P. Jones, wash-tubs and shelves	$15 50
Williams & Edwards, counterpanes, sheeting etc	291 30
J. M. Orton & Sons, mattresses, furniture, etc	2,148 85
Geo. P. Russ, plumbing	58 36
C. Comstock & Son, lumber	31 52
Wilson & Greenfield, curtains and fixtures, etc	32 64
J. S. Cottman, plumbing	216 97
Archer & Snyder, sundries	2 12
R. E. Lee, one wardrobe	15 88
G. V. Selden, tables and lumber	114 41
Geo. Merrill, leather	1 00
Seymour Moore, spring bed	9 00
Francis Ethridge, combs	25
M. W. Pritchard, slate frames, etc	27 51
R. E. Rauscher, lumber and labor	59 00
Henry W. Babcock, paint and labor	10 81
Spencer White & Co., carpets and oil cloths	234 34
C. D. Prescott, furniture	4 00
J. R. Juliand, crockery and glassware	353 99
Williams & Cross, large wall slates	152 54
J. C. Smith, oil cloth, bedding, etc	177 11
G. J. Leach, crockery, etc	77 81
J. & W. Townsend, hardware	55 70
Wardwell Bros, hardware	120 42
J. D. Ely, stoves and tinware	635 08
J. T. Miner & Sons, comfortable, counterpanes, sheeting, etc	243 80
Jeptha, Mattenon & Son, furniture	108 50
James H. Searles, furniture	101 00
George M. Armstrong, hard and tinware	46 76
George Payne, locks and general jobbing	160 23
George H. Mattenon, sewing machines and merchandise	71 63
C. Hayden & Son, one boiler for range	24 00
H. W. Mitchell, blankets, etc	32 63
Sundries	6 60
	$5,713 26

Medical.

G. N. Bissell, Son & Co., drugs and medicine	$57 36
Francis Ethridge, drugs and medicine	3 10
Dr, T. M. Flandrau, medical attendance	70 25
Dr. M. C. West, medical attendance	3 00
	$133 71

Fuel.

Hagerty & Aiken, coal and wood	$248 83
M. McDonough, coal and wood	299 00
C. Comstock & Son, wood	2 50
	$550 33

Printing.

Beers & Kessinger	$183 95
Sanford & Carr	16 00
	$199 95

Groceries and Provisions.

Evans & Mowry, groceries	$167 29
Ethridge, Fuller & Co., groceries	741 55
L. N. Jones, butter	369 19
Geo. Hammill, milk	222 20
D. G. Evans, meat	118 21
B. F. Olcott, potatoes	15 93
A. Burnham, berries	2 00
Wm. H. Hicks, meat and butter	824 66
H. C. Kenyon, ice	6 75
H. L. Stillman & Co., groceries	154 59
J. H. Smith, bread, etc	37 76
G. N. L. Cheeny, bread, etc	375 42
H. Hendricks, eggs	7 19
Francis Ethridge, tea and coffee	53 99
Wm. Hughes, potatoes	9 00
M. W. Rowe, oysters and fish	169 70
H. M. Lawton & Co., groceries	454 25
Dyelt & Smith, groceries	282 93
Mudge, Minott & Bro., groceries	167 02
Mudge, Marnott & Co., groceries	222 95
C. W. Elmer, bread, etc	277 77
L. E. Betson, meats	393 69
Sundry vegetables, berries, groceries, etc	115 82
	$5,189 86

Interest and Discount.

Discount on Monroe county order	$6 35

Clothing, etc.

W. W. Smith, boots and shoes	$227 20
H. W. Mitchell, dry goods	120 48
Walker & Cummins, boys' clothing	281 23
Archer & Snyder, dry goods	1 75
J. C. Smith, dry goods	14 09
A. M. Jackson & Co., dry goods	23 05
J. T. Miner & Sons, dry goods	132 08
W. S. Wright, hats and caps	12 00
Spence & White, dry goods	2 12
R. Keeny & Sons, hats and caps	9 50
O. W. Evans, shoemaking and mending	164 98
Williams & Edwards, dry goods	1 36
H. Hannah, millinery	17 62
Griffiths Bros., boots and shoes	9 35
	$1,016 81

Stationery and Postage.

Wilson & Greenfield, stationery and books	$141 75
Chas. Tuttle, stationery and books	77 07
American Tract Society, books	15 36
Jones & Armstrong, stationery and books	92 56
Harper & Bro., books	5 50
H. H. Peck, books	11 54
Postal cards, postage stamps and stamped envelopes	57 31
Check-book, stamped	3 60
Geo. C. Seidell, drawing-books	2 85
Sundry stationery	49 34
	$456 88

Miscellaneous.

Lime	$4 00
Oil	54 38
Soap	52 40
Hay and feed	40 27
Notary's fee	10
Delegation to Albany	68 40
Certified copy of act	1 50
Water tax	50 00
Lodging boys	90 00
Recording deeds	2 00
Delegation to Buffalo	20 16
Filing saws, 50c.; tack hammer, 35c	85

Expenses of interpreter to exhibition	$13 00
Expenses to meeting of principals at Philadelphia	25 00
Expenses to Utica and Syracuse after pupil	9 08
Traveling expenses (pupils)	25 19
Check-book	3 00
Rent opera house for exhibition	35 00
Work on sewerage	28 00
Rent of grove	3 75
Hack hire	16 50
Telegraphing	5 55
Expressage	11 05
Expenses to Little Falls about pupil	5 25
Post-office box rent	3 75
Rent and repairs of sewing machines before one was purchased	12 30
Sundries	145 97
	$726 45

Summary of Expenditures.

Salaries and wages	$5,584 00
Labor	358 63
Rent and insurance	1,470 84
Furniture and fixtures	5,713 26
Medical attendance and supplies	133 71
Fuel	550 33
Printing	199 95
Groceries and provisions	5,189 86
Interest and discount	6 35
Clothing	1,016 81
Stationery and postage	456 88
Miscellaneous	726 45
	$21,407 07
Cash on hand	546 45
Total receipts	$21,953 52

Dated ROME, *October* 1, 1876.

Respectfully submitted.

JOHN G. BISSELL,
Treasurer.

STATE OF NEW YORK, }
COUNTY OF ONEIDA, } ss.:

Bloomfield J. Beach, president, and John G. Bissell, late treasurer and secretary of the Central New York Institution for Deaf Mutes, being severally duly sworn, each for himself deposes and says: the first that he is such president as aforesaid; the second, that he is such late treasurer and secretary as aforesaid, and that the foregoing statement was made up under his supervision as treasurer and secretary of said institution, and both say that the foregoing statement of the receipts and expenditures of said institution down to October 1, 1876, is in all respects just and correct, according to the best knowledge and belief of said deponents.

BLOOMFIELD J. BEACH.
JOHN G. BISSELL.

Subscribed and sworn to before me }
this 21st day of December, 1876. }

W. B. Bliss,
Oneida Co. Judge.

REPORT OF THE PHYSICIAN.

To the Board of Trustees of the Central New York Institution for Deaf Mutes.

GENTLEMEN. — In compliance with your request, I submit a brief report of the sanitary condition of the Central New York Institution for Deaf Mutes, from its opening in March, 1875, to September 30, 1876.

During this period the institution has suffered but little from serious disease, and no death has occurred within its walls. Among so large a number of young persons, many minor maladies are to be expected; but the remarkably healthful location of the institution is a guarantee against the prevalence of the more fatal forms of disease. Situated in an agreeable suburb of our beautiful city, on a porous, well drained soil, enjoying the pure air of an agricultural region, the dangers to health are much less formidable than they would be in the midst of a crowded metropolis.

Constant attention has been given to all important hygienic measures. A thorough ventilation of the buildings has been maintained, the diet of the pupils carefully regulated. Ample means for bathing provided, and the physical effects of their studies and recreations have been closely observed.

The affections requiring medical treatment were most frequently attributable to variations of temperature, or were associated with the period of sexual development. Among them may be enumerated tonsillitis, sub-acute bronchitis, a case each of pneumonia and typhoid fever, and anæmia with its varying consequences.

During the late summer vacation, one of the young lady pupils died at her home, of acute pulmonary consumption. But a few weeks before she had a sudden hemorrhage from the lungs, the result of constitutional disorder. She was immediately transferred to the care of her friends, and, I regret to learn, soon fell a victim to this relentless disease.

Twenty-two primary and nineteen secondary vaccinations were made. The animal or bovine virus, supplied by Dr. F. P. Foster, of the New York Dispensary, was used and proved eminently satisfactory in its action.

I cannot close this paper without respectfully calling the attention of the board of trustees, who will soon have to decide upon plans for the construction of permanent buildings for the institution, to the vital importance of systematic ventilation of every room and hall. An uninterrupted renewal of the air of such an edifice is essential to the health of its inhabitants, and unless it is provided for in the original architectural arrangements, can afterwards only be obtained with difficulty, and at a largely increased expense.

Very respectfully.

THOS. M. FLANDRAU,
Attending Physician.

ROME, N. Y., *November* 6, 1876.

Pupils who have been connected with the Central New York Institution for Deaf Mutes, within the year ending September 30, 1876:

	Males.	Females.	Total.
Number connected with the institution September 30, 1875	25	30	55
New pupils admitted	18	15	33
Whole number	43	45	88
Number who have left during the year	1	4	5
Number connected with the institution September 30, 1876	42	41	83

Of the whole number during the year, there were supported by the State of New York forty-nine; by the counties, thirty-seven; by the parents, guardians or friends, one; by the institution, one; total, eighty-eight.

FEMALES.

Names.	Towns.	Counties.
Beardsley, Kittie	Union Springs	Cayuga.
Carpenter, Maggie	Utica	Oneida.
Clary, Mary	Deansville	Oneida.
Collamer, Hattie	Milton Centre	Saratoga.
Connor, Catharine	Syracuse	Onondaga.
Costolo, May Ann	Pompey	Onondaga.
Craner, Margaret	Palermo	Oswego.
Day, Frankie	Fort Edward	Washington.
Demers, Eva	Troy	Rensselaer.
Evans, Mary	Elmira	Chemung.
Evans, Susan	Whitestown	Oneida.
Eysamen, Minnie A.	Little Falls	Herkimer.
Gorton, Cora	Brookfield	Madison.
Hughes, Charlotte	Salisbury Centre	Herkimer.
Hunter, Martha	Lansingburgh	Rensselaer.
Henry, Anna Maria	Odessa	Schuyler.
Ives, Helen	Troy	Rensselaer.
Jesmore, Estella	Sterling	Cayuga.
Johnson, Mary	Canastota	Madison.
Livermore, Deetta	Saulsville	Madison.
Lyon, Florence M.	Colesville	Broome.

Names.	Towns.	Counties.
Mack, Jennie	Taberg	Oneida.
Mackey, Ida	Clay	Onondaga.
Mather, Clara B.	Utica	Oneida.
Minnoe, Virginia	Clayton	Jefferson.
Morrow, Gertrude	Georgetown	Madison.
Oliver, Jessie	Glendale	Lewis.
Pfaffer, Matilda	Lansingburgh	Rensselaer.
Randall, Ella J.	East Palmyra	Wayne.
Ritter, Jennie M.	Leyden	Lewis.
Semple, Mary	Utica	Oneida.
Shutts, Cora	Hannibal	Oswego.
Shankenberry, Barbara	Boonville	Oneida.
Skye, Isabella	West Eaton	Madison.
Smith, Grace O	Dayton	Cattaraugus.
Tripp, Louisa Gertrude	Syracuse	Onondaga
Weeks, Grace	Skaneateles	Onondaga
Weinbrecht, Louisa	Troy	Rensselaer.
White, Maggie	Little Falls	Herkimer.
Williams, Mary	Western	Oneida.
Wolf, Minnie	Rome	Oneida.
Total		41

MALES.

Adams, William S.	Rome	Oneida.
Bossom, Jacob	Binghamton	Broome.
Brennan, Patrick	Kirkland	Oneida.
Cook, Lindley	Taberg	Oneida.
Cox, William L.	Lorraine	Jefferson.
Emio, Napoleon	Clayton	Jefferson.
Francis, Frank L.	Mina	Chautauqua.
Gardner, Willie	West Camden	Oneida.
Gardner, Henry A	Mannsville	Jefferson.
Gibbs, Charles	Sodus	Wayne.
Gillet, Lyman O	Lafargeville	Jefferson.
Gleasman, William	Ava	Oneida.
Houghtaling, Wm. Henry	Starkey	Yates.
Hilts, Walter	Rome	Oneida.
Hoxie, Olin	Union Springs	Cayuga.
Hubbard, William	Parish Hill	Oneida.
Jones, John J	Rome	Oneida.
Keller, John F	Geddes	Onondaga.
Keller, John	Syracuse	Onondaga.
Lyon, Alvah	Colesville	Broome.
Maxwell, Joseph	Pulaski	Oswego.
McCabe, James	Elmira	Chemung.
Miller, Adam H.	Little Falls	Herkimer.
Minkle, Martin	Strykersville	Wyoming.
Morgan, Frank D	Binghamton	Broome.

Names.	Towns.	Counties.
Norton, Willie B.	Kingsbury	Washington.
Parker, William	Ripley	Chautauqua.
Pousho, Charles	Oswego	Oswego.
Riley, William	Verona	Oneida.
Risley, Charles	Chittenango	Madison.
Ryan, David	North Argyle	Washington.
Salmond, Andrew J	Dunkirk	Chautauqua.
Semple, Henry	Utica	Oneida.
Schouten, Geo. Washington	Hannibal	Oswego.
Shaw, Geo. Washington	Kendall	Orleans.
Shepherd, Mather E	Lyonsdale	Lewis.
Stearns, Willie A	Orwell	Oswego.
Taylor, Martin M	Berlin	Rensselaer.
Thomas, John	New Hartford	Oneida.
Walsh, James, Jr	Binghamton	Broome.
Wainman, James A	New Hartford	Oneida.
Woodworth, Stiles	Clay	Onondaga.
Total		42

REPORT OF THE PRINCIPAL.

To the Board of Trustees of the Central New York Institution for Deaf Mutes:

GENTLEMEN.— I beg leave to present the second annual report of the Central New York Institution for Deaf Mutes, showing, to the best of my knowledge, the operations of the said institution during the year ending September 30, 1876. Before proceeding farther, out of courtesy and respect to the ex-principal, Professor Johnson, I deem it but just to say that the operations of the said institution came chiefly under his management, during the past year, and his success can easily be seen, when one sees the prosperous condition the institution was in when I was called upon to take the position of principal.

The school during the past year was divided into four classes, viz.:

(I). The advanced class, numbering fifteen pupils. This class was under the instruction of Professor Johnson, and pursued the following studies: "Montieth's Manual of Geography," "Barber's General History," "Swinton's Language Lessons," "Thompson's Arithmetic," and the "Holy Bible." The progress made by the pupils was very commendable, especially so, because they labored under a great many disadvantages, from the lack of proper school apparatus, such as large slates, desks, etc., added to which, the fact that their instructor, at that time the principal also, was liable to be called out at any time, leaving the class the alternative to study or, in the interval, during the teacher's absence, to while away their time in useless conversation or idleness.

(II). The next class, in order of grade, was under the instruction of Professor William Martin Chamberlain, and numbered eighteen pupils. This class was divided into three divisions, thereby increasing the labor and taxing the teacher's ingenuity to keep them all in running order. The progress made by the pupils was satisfactory, and reflected credit, in no small degree, upon the instructor. The books used by this class were "Sander's Union Reader, No. 1," and "Dr. Peet's Scripture Lessons." The pupils were also required, to the best of their ability, to write out each morning their recollections of the previons day's occurrences.

(III). The next class, in order of grade, was under the instruction of Professor Fort Lewis Seliney, late of the New York Institution, and numbered twenty-two pupils, younger in years and rather more even in capacity. The book used by this class was "Sander's Union

Reader No. 1," which they finished and thoroughly reviewed. During the year they also began "Dr. Peet's Scriptural Lessons," and by the end of the year had made great progress in it.

(IV). The primary department was under the instruction of Miss H. Jane Roe. This class numbered fifteen pupils. Great credit is also due to Miss Roe, and the progress made by her class was very noticeable by those who were frequently accustomed to visit this institution.

In addition to the instruction given the pupils by their regular teachers, Miss Dora Hendricks spent portions of the school hours in each class, giving instruction in articulation and lip reading.

Such is a brief account of the workings of this institution, considered in its educational capacity, up to the first of September, 1876, at which time I took charge. A slight change was then made in both departments. To Miss Dora Hendricks, formerly teacher of articulation, the new pupils were given to instruct, using, as a text-book, Dr. Peets' Language Lessons, a new method of object teaching and one which bids fair to be the method for deaf mute beginners. Miss Emily Halstead, former housekeeper, assumed the duties of sewing matron, and Mrs. Charlotte Davis, formerly matron of the house of the Good-Shepherd, Utica, was chosen in her stead. Miss Lizzie Murphy, a graduate of the New York institution, was also appointed as one of the assistant matrons. Having now a very strong corps in the domestic as well as in the educational department, our school gradually grew in size until we numbered eighty-three pupils.

The educational department might be said to be divided into three departments: The advanced department, under Prof. Johnson. The intermediate department, comprising Prof. Chamberlain's and Prof. Seliney's classes, and the primary department, comprising Miss Roe's and Miss Hendrick's classes. To the intermediate department a new study has been added, viz., geography, and it will not be a great while before history will be added to its list of studies. I intend to take up only one thing at a time, and by degrees we will ascend the ladder, until we will stand on the topmost round, and be able to compete with any other institution for deaf mutes. In each and all of the classes, the fact has been fully demonstrated, that the system adopted in the beginning, *i. e.*, the improved or combined method, is the best, employing no special text-book for the deaf and dumb, but selecting such as seem best adapted to the case in hand.

It perhaps would not be out of the way to mention here the hours for school, etc.: Breakfast at 7 A. M.; school from 9 A. M. to 12 M.; Dinner at 12.15 P. M.; school from 1.30 P. M. to 3.30 P. M.; work from 4 P. M. to 5 P. M.; supper at 5.30 P. M.; study hours from 7 P. M. to 9 P. M.; bed hours at 7 P. M., 8 P. M. and 9 P. M.; lights out at 9.30. P. M.

After each meal a certain number of the girls, selected by the matron each week, have certain domestic duties to perform, which, when they leave here and go to their homes, will enable them to become efficient housekeepers and a great help to their parents. From 4 to 5 P. M. the girls are given instruction in sewing and the boys are kept busy around the yards.

THE BUILDINGS.

We at present occupy four dwelling-houses, one brick and three wooden, on Madison street; two on each side of the street being opposite each other. In the brick house, the older girls occupy the upper floor as a dormitory, in charge of the matron. The ground floor is occupied as a dining room for the boys and girls, part of which is used, in the evening, as a study room for those girls who sleep up stairs and in the house next to it. In the house next to the brick one, on the same side of the street, a younger set of girls occupy the second floor as a domitory, in charge of the sewing matron. On the ground floor of this same building is the parlor and principal's office and room. In this house, also, the family take their meals. In the houses opposite, one, a white one, is occupied by the little girls as a dormitory, in charge of the assistant matron, the lower floor being used as school rooms during the daytime and as a sitting and study room for the little girls during the evening. The other, a brown house, next to the white one, on the same side of the street, the boys occupy as a dormitory, the ground floor, during the daytime, being used as school rooms, and during the evenings as a sitting and study room for the boys. I have a hearing and speaking man sleep in the boys' house, who keeps watch over them at night and attends to their wants. So, in each of the four buildings there is a hearing and speaking person. We are pretty well crowded, and hope before a great while to have a new building.

Our institution has grown now to such an extent that a large and spacious building, where we can all be under one roof, becomes a necessity, and the sooner we get this the better it will be for the institution, as applications for admissions are continually coming in; and, on account of not having sufficient accommodations, we are obliged to put them off for the time. We began in one small brick building, and now we occupy four dwelling-houses, and could easily fill two or three more. I must not forget, also, to mention another building, which has been added for laundry purposes. In one room of this building there has been fitted up a carpenter's shop, where one or two boys work, and, under the instruction of Professor Chamberlain, an experienced carpenter, they will be an honor to the institution; they already can make a wardrobe which would do great credit to an experienced carpenter. We have also a small shoe-shop begun in the same building, and soon some of the boys will be set to work mending shoes, etc. These small things are only the beginning of greater things, when we get more room. We have plenty of good material, and only want our friends to start us, and we will run ourselves. We might be compared to a machine, in good working order, but needing a little oiling. So, I appeal to the kind people of Rome to assist us in oiling the machine, and when we once get started with plenty of room, you will never regret it.

THE HEALTH OF THE PUPILS.

The health of the pupils during the past year has been excellent, very few cases of sickness having occurred, serious ones being rare, as the report of our able physician will show. We have, however, our first and only case of death to record, that of Miss Addie McCredy, of Canandaigua, a bright and promising semi-mute. She came to us in a somewhat delicate state of health, having a strong predisposition to consumption, and her attendance at school was quite irregular by reason of her frequent indispositions. She was obliged to leave in May, and declined steadily after arriving home till July 17, 1876, when her spirit ascended to a brighter and better world. The news of her death was received with sorrow, tempered with a well-founded hope that she was at rest, and happy in the removal of all earthly imperfections.

ACKNOWLEDGMENTS.

As was the case last year, so also this year, the institution is indebted to the managers and officers of the county fair for free tickets of admission to the pupils. The pupils all enjoyed themselves greatly, and will always remember the kindness extended to them by the officers. Many thanks also are due to Mr. Bissell, our treasurer and secretary, for his trouble in procuring a conveyance for the pupils to the fair.

We also are happy to acknowledge the receipt of the following newspapers: The Rome Sentinel, The Mute Chronicle, Columbus, Ohio, The Kentucky Deaf-Mute, The Michigan Deaf-Mute Mirror, The Silent World, Washington, D. C., The Gopher, Faribault, Minn.

Now, my friends, I have endeavored to give you, in as few words as possible, the operations of this institution for the year ending September 30, 1876. That the institution has been a success every one can see, and the prospects for the future are very bright. I therefore can, I think, with a clear conscience, conclude with an appeal, so, in the language of Cicero, I might say: "*Quosque tandem abutemini, Romani, patentia nostra?*" (How long will you, oh Romans, tamper with our patience?) We are getting to be impatient. Like a wild animal in a cage much too small for him, always trying to get out, so we are placed in quarters much too small, and are trying to get out. You can assist us greatly. Loosen us from our small quarters and place us in a large, spacious building on the grounds which some of the directors have given us, with certain conditions, where we can do ourselves justice, and make Rome feel proud that it has an institution for deaf mutes in its city.

Respectfully submitted.

EDWARD BEVERLY NELSON,
Principal.

BY-LAWS.

ARTICLE I.

Of Members.

I. The members of the society authorized to vote on the election of trustees shall be those who have paid two dollars or upward the previous year for its support.

II. Any one paying twenty-five dollars at one time shall be a life member, and as such qualified to vote for trustees.

III. Members may be elected at an annual meeting.

-ARTICLE II.

I. The annual meeting of the members shall take place at the institution on the first Tuesday of February, at 2½ o'clock in the afternoon, of which meeting the secretary shall give one week's notice in two papers published in the city of Rome.

II. Two inspectors of the election shall be appointed by the president or other presiding officer at the meeting.

III. The election of trustees shall be certified in writing by the inspectors of election, and their certificates shall be recorded in the minutes of the Board.

ARTICLE III.

Officers of the Institution.

I. The officers of the society shall be a president, two vice-presidents, a treasurer and a secretary, who shall be elected by the board from their own number.

II. The offices of secretary and treasurer may be held by the same person.

ARTICLE IV.

I. The board of trustees shall hold meetings on the first Tuesday of February, May, August and November in each year at the institution, or at such other place as the board may direct, and also whenever called by the president or any three trustees. A majority of the board shall constitute a quorum for the transaction of business.

II. At the meetings of the trustees the order of business shall be as follows:

1. Reading of the minutes of the last meeting.
2. Reading the minutes of the executive committee.
3. Reports of committees.
4. Reports of the treasurer and principal.
5. Report of the physician.
6. Miscellaneous business.

III. All motions or resolutions shall be presented in writing, except motions to adjourn or to take a recess.

IV. All persons appointed or employed under the authority of the board shall hold their respective employments, subject to being terminated at any time at the pleasure of the board, and the trustees shall fix the compensation of all persons appointed by them.

Article V.

Of the Executive Committee.

I. There shall be an executive committee of the trustees, appointed annually by the board at the first meeting after the annual election, consisting of five members, including the president, who shall always be a member of the committee. To this committee the exercise of the powers of the board is intrusted between the meetings of the board. But no purchase, lease or sale of real estate shall be made except on the sanction of the board of trustees.

II. The executive committee shall hold a meeting at the institution on the last day of each month, except when that day falls on Sunday, when it shall be held on the day following. They shall see that all orders of the trustees are promptly carried into effect, and shall examine the bills of expenditures and certify them for payment by the treasurer, by drafts to the order of the principal. They shall examine and approve, modify or reject the bills of wants submitted by the principal. The fiscal year of the institution shall end on September thirtieth, each year.

Article VI.

Of the President and Vice-Presidents.

I. The president, or in his absence, one of the vice-presidents, shall preside at the annual meeting of the members and at all meetings of the trustees. In the absence of the president and vice-presidents a temporary chairman shall be appointed from among the trustees present.

Article VII.

Of the Treasurer.

I. The treasurer shall have charge of all the securities and funds of the institution, and shall make such disposition of the money on hand, not needed for immediate use, as the trustees shall direct. He shall have charge of the deeds and other evidences of title belonging to the institution.

II. He shall present to the trustees at each quarterly meeting a quarterly report, and at the stated meeting in November, each year, an annual report of his accounts and of the funds of the institution.

III. He shall not pay out the money of the institution except on the draft of the executive committee.

IV. He shall always give bond, with such security or securities as the executive committee shall approve, for duly accounting for and paying over, on request of the board, the funds in his charge, and this bond shall be in the custody of the president of the board.

ARTICLE VIII.

Of the Secretary.

I. The secretary shall keep minutes of the proceedings at all the meeting of members and of the board of trustees, and record them in a book to be kept by him for that purpose, and perform such other duties as the trustees may assign to him.

II. He shall give notice of the time and place of meetings of the members of the institution and of the board of trustees.

ARTICLE IX.

I. The board may appoint an officer to be denominated the counsel of the board. He shall have the custody of all legal papers and shall be charged with the prosecution of all claims and resistance of all contested demands on the part of the institution.

ARTICLE X.

Of the Principal.

I. The board of trustees shall appoint a principal, who shall be the executive head of the institution and shall have charge of the educational and internal affairs of the institution, subject to such directions as may be from time to time given by the board.

II. He shall regulate the course of instruction and arrangements of studies and classes, and have immediate charge of the advanced class.

III. He shall arrange and conduct all examinations and exhibitions of the pupils.

IV. He shall conduct all correspondence relative to the admission of pupils, and their education, and to the collection of money due for board and tuition and clothing of pupils, and shall pay over all received by him, for the institution, immediately to the treasurer.

V. He shall enter, in a book to be kept for that purpose, a diary of all events, worthy of note, relating to the institution, which book shall be the property of the trustees, and be exhibited to the executive committee and submitted to the board at its quarterly meetings.

VI. He shall conduct the daily services in the chapel, in person, and one of the religious exercises on the Sabbath.

VII. He shall frequently inspect all parts of the buildings and premises, and lay before the executive committee such suggestions on repairs and alterations as may seem to him proper.

VIII. He shall hire, assign the duties of, direct, so far as he may deem proper, and dismiss, when he may consider it necessary, all persons whom it may be necessary to employ, not officers of the institution or appointed to places by the board of trustees.

IX. No employe shall be allowed to have any member of his or her family residing in, or at the expense of the institution.

X. He shall have power, with the approval of the executive committee, to suspend any professor, or teacher, or officer, appointed by the board of trustees, during the recess of the board.

XI. He shall attend all meetings of the board of trustees, presenting written reports at the quarterly meetings.

XII. He may speak on any matter under discussion.

Article XI.

Of the Physician.

The physician shall be appointed annually by the board. He shall visit the institution daily, or as often as is necessary or required, make up recipes when required for the sick, and perform such other duties in the line of his profession as the principal or executive committee may require. He shall report on the state of his department quarterly, or oftener, if required, and make any suggestions he deems proper regarding sanitary regulations and attention to the health of the pupils.

Article XII.

Of the Pupils.

I. Every pupil who has not been vaccinated before being received into the institution shall be vaccinated without delay.

II. Pupils honorably dismissed from the institution shall receive a certificate signed by the principal.

III. No pupil shall be excused from recitation, attendance in the chapel, or during the hours of study, except by permission, in writing, from the principal, and no pupil shall be absent from the institution without his leave in writing.

IV. Pupils shall not be allowed to retain any pocket money, but, on admission, shall deliver the same to the principal, who shall cause it to be credited on the books of the institutions, and returned in such sums as he may deem advisable.

Article XIII.

Of the Steward, Matron and Housekeeper.

The board of trustees shall appoint a steward, a matron and a housekeeper, who, with such assistants as may be needed, shall discharge the duties appropriate to their respective offices, under the general direction of the principal.

Article XIV.

Of the Accountant and Supervisor.

I. The board of trustees shall appoint an accountant and a supervisor. The accountant shall keep a complete record of the financial transactions of the institution. He shall submit to the treasurer a statement of the condition of the various accounts, once in every three months, or whenever requested by the board or executive committee. This office may be filled by a professor or teacher of the institution.

II. The supervisor shall have charge of the boys, out of school, and during the hours of study, under the direction of the principal, and shall perform such other duties as he may prescribe. This office may be filled by a professor or teacher of the institution.

ARTICLE XV.

Of Examinations.

There shall be an annual examination of the pupils on the last day of the term, and on such days as the trustees may, from time to time, appoint.

ARTICLE XVI.

Of the Vacation.

There shall be a vacation from the last Wednesday of June to the first Monday of September, unless otherwise directed by the board.

ARTICLE XVII.

The trustees may, at any time, at a regular quarterly meeting, alter, amend or add to these by-laws.

TERMS OF ADMISSION.

I. The institution provides for pupils in all respects, traveling expenses, and, in the case of State and pay pupils, clothing excepted, at the rate of $300 per annum. Clothing will be furnished by the institution, if desired, at an additional charge. "Payments must be guaranteed. Day pupils will be received at a charge of $100 per annum, including books and stationery, payable semi-annually in advance."

II. The regular time of admission is at the commencement of the term, which begins the first Wednesday of September. Pupils are received at no other time, except in extraordinary cases.

III. No deduction will be made from the annual charge in consequence of absence on any account whatever, except sickness, nor for the vacation.

IV. Satisfactory security will be required for the punctual payment of bills, and the suitable clothing of the pupils. In the case of pupils supported by their parents or friends a bond may be required, the form of which is annexed to this report.

V. The selection of pupils over twelve years of age, to be supported at the public expense, is made by the Superintendent of Public Instruction at Albany, to whom communications on the subject can be addressed.

Parents having deaf mute children under twelve years of age and over six may secure their admission to the institution as county pupils by the certificate of any overseer of the poor or supervisor of the county.

VI. Should objection exist to the admission of any individual, the board reserve to themselves, or their officers, a discretionary power to reject the application.

The above terms are to be understood as embracing the entire annual expense to which each pupil is subjected. Stationery and necessary school books are furnished by the institution. No extra charge is made, in case of sickness, for medical attendance, medicine or other necessary provisions.

It is suggested to the friends of deaf mute children, that the names of familiar objects may be taught them with comparative ease before their admission, and that the possession of such knowledge in any degree materially facilitates their subsequent advancement. To be able to write an easy hand, or at least to form letters with a pen, is likewise a qualification very desirable. In reference to this subject, it is recommended that the words which constitute writing lessons, or *copies*, preparatory to admission, should be such as have been previously made intelligible to the learner.

In the case of each pupil entering the institution, it is desirable to obtain written answers to the following questions. Particular attention to this subject is requested :

1. Name of pupil, in full.
2. Residence, town, county, State.
3. When was he born ?
4. Where was he born ?
5. Was he born deaf ?
6. At what age was hearing lost ?
7. By what disease or accident did he become deaf ?
8. Is the above the physician's opinion ?
9. Is the deafness total or partial ?
10. Have any attempts been made to remove the deafness, and if so, by whom and with what result ?
11. Have any attempts been made to communicate instruction ?
12. Is there any ability to articulate or read on the lips ?
13. Is he cleanly or otherwise in his habits ?
14. Has he had any acute disease or received any bodily injury ?
15. Is he laboring under any bodily infirmity, defective vision, eruption, malformation of limbs, glandular swelling, rupture, epilepsy, chorea or palsy ?
16. Has he shown any signs of mental imbecility, idiocy or insanity ?
17. Has he ever used ardent spirits, opium or tobacco ?
18. Has he ever been vaccinated or had the small-pox ?
19. Has he had the scarlet fever ?
20. Has he had the measles ?
21. Has he had the mumps ?
22. Has he had the whooping cough ?
23. Has he shown marked taste for any particular trade or business, or been accustomed to regular employment ?
24. Are there any other cases of deafness in the family, among relatives or ancestors ?

25. What is the name of the father?
26. Where was he born?
27. What is the name of the mother?
28. Where was she born?
29. What is the name and post-office address of the correspondent?
30. What is the occupation of the father?
31. Have either of the parents died?
32. Has a second connection been formed by marriage?
33. Were the parents related before marriage — *e. g.*, cousins.
34. What are the names and ages of their children?
35. What has been the pecuniary condition of the parents? Indigent? Easy circumstances? Affluent?
36. Has he any special mark or peculiarity of appearance?
37. Color, color of eyes, stature, color of hair.
38. By whom is this information given?

VII. Application regarding the admission or dismission of pupils, and correspondence with reference to their support, health, education, and all matters pertaining to them, should be addressed to the principal of the institution.

E. B. NELSON,
Rome, N. Y.

LAWS AND BLANK FORMS

RELATING TO THE ADMISSION OF PUPILS.

CHAPTER 325, LAWS OF 1863.

As amended by chapter 213, entitled, "An act relative to the care and education of deaf mutes."

PASSED April 29, 1875.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

SECTION 1. Whenever a deaf mute child, under the age of twelve years, shall become a charge for its maintenance on any of the towns or counties of this State, or shall be liable to become such charge, it shall be the duty of the overseer of the poor of the town, or of the supervisors of such county, to place such child in the New York Institution for the Deaf and Dumb, or in the Institution for the Improved Instruction of Deaf Mutes, or in the Le Couteulx St. Mary's Institution for the Improved Instruction of Deaf Mutes in the city of Buffalo, or in the Central New York Institution for Deaf-Mutes, in the city of Rome, or in any institution of the State for the education of deaf mutes.

§ 2. Any parent, guardian or friend of a deaf-mute child, within this State, over the age of six years and under the age of twelve years, may make application to the overseers of the poor of any town, or to any supervisor of the county where such child may be, showing, by satisfactory affidavit or other proof, that the health, morals or comfort of such child may be endangered, or not properly cared for, and thereupon it shall be the duty of such overseer or supervisor to place such child in the New York Institution for the Deaf and Dumb, or in the Institution for the Improved Instruction of Deaf Mutes, or in the Le Couteulx St. Mary's Institution for the Improved Instruction of Deaf Mutes in the city of Buffalo, or in the Central New York Institution for Deaf Mutes, in the city of Rome, or in any institution in the State for the education of deaf mutes.

§ 3. The children placed in said institution, in pursuance of the foregoing sections, shall be maintained therein at the expense of the county from whence they came, provided that such expense shall not exceed $300 each, per year, until they attain the age of twelve years, unless the directors of the institution to which a child has been sent, shall find that such child is not a proper subject to remain in said institution.

§ 4. The expenses for the board, tuition and clothing for such deaf mute children, placed as aforesaid in said institutions, not exceeding the amount of $300 per year, above allowed, shall be raised and collected as are other expenses of the county from which such children shall be received; and the bills therefor properly authenticated by the principal, or one of the officers of the institution, shall be paid to said institution by the said county; and its county treasurer or chamberlain, as the case may be, is hereby directed to *pay the same on presentation*, so that the amount thereof may be borne by the proper county.

§ 5. This act shall take effect immediately.

CHAPTER 13.

AN ACT in relation to the Central New York Institution for Deaf Mutes, at Rome.

PASSED Feb 4. 1876; three-fifths being present.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

SECTION 1. The Central New York Institution for Deaf Mutes, at Rome, is hereby authorized to receive deaf and dumb persons, between the ages of twelve and twenty-five years, eligible to appointment as State pupils, and who may be appointed to it by the Superintendent of Public Instruction, and the Superintendent of Public Instruction is authorized to make such appointment to the aforesaid institution, and, in his discretion, to date back the first thirty appointments to the first day of October, eighteen hundred and seventy-five.

APPLICATION

FOR THE ADMISSION OF COUNTY PUPILS.

To be made to and retained by the Supervisor or Overseer of the Poor.

STATE OF NEW YORK, } *ss.:*
County of }

.... of the town of .... in said county, hereby certifies that he is the .... of .... a deaf mute child, residing in said town, and who was born on the.... day of ...., 18 , and that in consequence of the want of education, the health, morals and comfort of said child may be endangered or not properly cared for; and the undersigned hereby makes application for the said child to be placed in the Central New York Institution for Deaf Mutes, for support and education, pursuant to chapter 325 of the Laws of 1863, as amended by chapter 213 of the Laws of 1875.

....

Dated............, 18 .

CERTIFICATE

To be granted by Supervisor or Overseer of the Poor, and sent to the Institution.

STATE OF NEW YORK, } *ss.:*
County of }

I have this day selected.............. of the town of.......... county of............, son [*or daughter*] of............, who was born on the........day of............18 , as a county pupil, in the Central New York Institution for Deaf Mutes, for the term of .... years from the .... day of............18 , to the ....day of .... 18 , (he being then 12 years of age), to be educated and supported therein, during that period, at the expense of the county of............, in conformity with the provisions of chapter 325, Laws of 1863, as amended by chapter 213 of the Laws of 1875.

.... } ....
of the town of

Dated ...., 18 . ...

FORM OF APPLICATION

To be sent to the Superintendent of Public Instruction, Albany, in case of candidates for admission twelve years of age and over.

The undersigned......... of the town of........ in the county of .... do hereby certify that........... of said town, is deaf and dumb. The said.........was..........years of age on the....day of .... 187 ; is of good moral character, free from disease, and possesses intellectual faculties capable of instruction.

The names of the parents of the said..... ... are .... and the said parents have resided in this State for the last three years. They respectfully apply for the appointment of said .... as a State pupil in the Central New York Institution for Deaf Mutes; and I would recommend the application to the favorable consideration of the Superintendent of Public Instruction. The parents are unable to provide the said .... with clothing.*

Dated ...., 18 .

.... } ....
of the town of
....

To the Superintendent of Public Instruction, Albany.

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*In case the parents are able to provide clothing, the above sentence should be erased.

FORM OF BOND.

Know all men by these presents that we....................of ....in the county of..............and State of .... and ....of......... in the county of................and State of ....are held and firmly bound unto..............the treasurer of the Central New York Institution for Deaf Mutes, and his successors in office, in the sum of.................dollars, for which payment, well and truly to be made, we bind ourselves, our heirs, executors and administrators, jointly and severally, firmly by these presents.

Sealed with our seals. Dated at.................this........ day of....................A. D....

Whereas................of................in the county of of.........................and State of ....has been or is about to be admitted as a pupil in the institution aforesaid:

Now, therefore, the condition of this obligation is such, that if the above named obligors shall well and truly pay during the continuance of the said.................... as such pupil, the sum of three hundred dollars per annum for....board and tuition, semi-annually in advance, and shall also pay on demand all sums charged to the account of said............for money or necessary articles furnished to said............; and shall also pay interest on each bill, from and after the time it shall become due, then this obligation to be void, otherwise to remain in full force and virtue.

Sealed and delivered in presence of

.... [L. S.]
.... [L. S.]

Situation of the Institution.

The institution is located very centrally in the State, at Rome, Oneida county, N. Y., and is easy of access from all points on the Central railroad. It is reached from northern points of the State by the Rome, Watertown and Ogdensburgh railroad, and from the southern and southern central counties by the Delaware, Lackawanna and Western railroad to Utica or Syracuse, and thence by the Central.

The buildings are located on Madison street, in a pleasant and healthy vicinity, about twenty minutes' walk from the depot.

STATE OF NEW YORK.

No. 21.

IN ASSEMBLY,

January 10, 1877.

LIST OF STANDING COMMITTEES OF THE ASSEMBLY FOR 1877.

On Ways and Means.

Mr. Husted, Westchester;
Alvord, Onondaga;
Hogeboom, Columbia;
Post, Cayuga;
Hayes, New York;
Mr. J. G. Graham, Orange;
Cozans, New York;
Bradley, Kings;
Maynard, Delaware.

On Judiciary.

Mr. Strahan, New York;
Hogeboom, Columbia;
Hepburn, St. Lawrence;
Gilbert, Franklin;
Santee, Steuben;
Mr. Langbein, New York;
Ruggles, Steuben;
Piper, Niagara;
H. H. Rockwell, Chemung.

On Affairs of Cities.

Mr. Fish, Putnam;
Smith, Onondaga;
J. S. Graham, Monroe;
Cowdin, New York;
Stephenson, Kings;
Mr. Corsa, New York;
Mitchell, New York;
McGroarty, Kings;
Tabor, Erie.

On Railroads.

Mr. Gilbert, Franklin;
S. Baldwin, Allegany;
Billings, Orleans;
Bowen, Clinton;
Morey, Livingston;
Mr. Fay, Fulton and Hamilton;
O'Hare, New York;
Herrick, Albany;
Moller, Westchester.

On General Laws.

Mr. Hogeboom, Columbia;
Post, Cayuga;
T. A. Case, Chautauqua;
Lang, St. Lawrence;
Backenstose, Ontario;
Mr. Peck, Oswego;
Davenport, Otsego;
Weiant, Rockland;
Purdy, Westchester.

On Canals.

Mr. Baker, Washington;
Gallagher, Erie;
Alvord, Onondaga;
Sheldon, Madison;
G. M. Case, Oswego;
Mr. Moore, Oneida;
Spinola, New York;
Bissell, Niagara;
Curran, Albany.

On Commerce and Navigation.

Mr. Webb, Dutchess;
Hayes, New York;
Gere, Tioga;
Suydam, Kings;
Keator, Ulster;
Mr. Filkin, Rensselaer;
Stein, New York;
Shanley, Kings;
Brick, Richmond.

On Insurance.

Mr. J. G. Graham, Orange;
Cowdin, New York;
Husted, Westchester;
Lang, St. Lawrence;
Skinner, Jefferson;
Mr. Moody, Broome;
Weiant, Rockland;
Coulter, New York;
Floyd-Jones, Queens.

On Banks.

Mr. McKee, Herkimer;
S. Baldwin, Allegany;
Cowdin, New York;
E. Case, Oneida;
Clapp, Essex;
Mr. M. L. Baldwin, Yates;
Galvin, New York;
Childs, Seneca;
Rice, Lewis.

On Internal Affairs.

Mr. Bowen, Clinton;
Hammond, Dutchess;
Hodges, Monroe;
Spicer, Jefferson;
McGraw, Cortland;
Mr. Valentine, Wayne;
Nachtmann, New York;
Langner, Erie;
W. L. Rockwell, Monroe.

On Affairs of Villages.

Mr. Noyes, Saratoga;
T. A. Case, Chautauqua;
Billington, Madison;
Skillman, Chenango;
Welsh, Delaware;
Mr. Barnes, Otsego;
Wemple, Montgomery;
Durland, Orange;
Bulmer, Queens.

On Roads and Bridges.

Mr. Gallagher, Erie;
Billings, Orleans;
Waddell, Warren;
Potter, Washington;
Corbett, Oneida;
Mr. Williams, Chautauqua;
Galvin, New York;
Proper, Columbia;
Humphrey, Greene.

On Public Printing.

Mr. Skinner, Jefferson;
Suydam, Kings;
Clark, Wyoming;
Marvin, Kings;
Clapp, Essex;
Mr. Moore, Oneida;
Holahan, New York;
Neilson, Saratoga;
Sanders, Schenectady.

On Public Health.

Mr. McFalls, St. Lawrence;
Gulick, Schuyler.
Hammond, Dutchess;
Stephenson, Kings;
King, Cattaraugus;
Mr. Billington, Madison;
Laugner, Erie;
Grady, New York;
Longyear, Ulster.

On Charitable and Religious Societies.

Mr. Hepburn, St. Lawrence;
McKee, Herkimer;
Backenstose, Ontario;
Marvin, Kings;
Wickes, Tompkins;
Mr. Keator, Ulster;
Lyon, Kings;
Hamilton, Ulster;
Maher, Albany.

On Public Education.

Mr. Smith, Onondaga;
Hodges, Monroe;
Orr, Erie;
Taylor, Genesee;
Peck, Oswego;
Mr. Winch, Ontario;
Lyon, Kings;
O'Hare, New York;
Ecclesine, New York.

On Militia.

Mr. Gere, Tioga;
Shannon, Cattaraugus;
Clark, Wyoming;
Waddell, Warren;
Herbst, Onondaga;
Mr. Welsh, Delaware;
Spinola, New York;
J. H. Brown, Schoharie;
Flecke, New York.

On Claims.

Mr. Shannon, Cattaraugus;
Gulick, Schuyler;
J. S. Brown, Cayuga;
E. Case, Oneida;
M. L. Baldwin, Yates;
Mr. Thistlethwaite, Wayne;
Dellemeier, Kings;
M. Healy, New York;
Crowley, Erie.

On Federal Relations.

Mr. Lang, St. Lawrence;
Baker, Washington;
Fish, Putnam;
Gilbert, Franklin;
G. M. Case, Oswego;
Mr. Corsa, New York;
J. Healey, New York;
Hamilton, Ulster;
Grady, New York.

On Privileges and Elections.

Mr. Morey, Livingston;
Husted, Westchester;
Strahan, New York;
Backenstose, Ontario;
Mr. Barnes, Otsego;
Cozans, New York;
W. L. Rockwell, Monroe.

On Civil Divisions.

Mr. Waddell, Warren;
J. G. Graham, Orange;
Sheldon, Madison;
Skinner, Jefferson;
Mr. Skillman, Chenango;
Purdy, Westchester;
Tighe, Kings.

On Game Laws.

Mr. J. S. Brown, Cayuga;
Shannon, Cattaraugus;
Webb, Dutchess;
Gilbert, Franklin;
Mr. Orr, Erie;
Childs, Seneca;
Sliter, Rensselaer.

On Expenditures of the Executive Department.

Mr. Hammond, Dutchess;
Fish, Putnam;
Gulick, Schuyler;
Smith, Onondaga;
Mr. Moore, Oneida;
Maher, Albany;
Coulter, New York.

On Trade and Manufactures.

Mr. Corbett, Oneida;
Noyes, Saratoga;
Bowen, Clinton;
Fay, Fulton and Hamilton;
Mr. Filkin, Rensselaer;
J. Healey, New York;
Dimond, New York.

On Manufacture of Salt.

Mr. Hodges, Monroe;
Herbst, Onondaga;
Spicer, Jefferson;
Taylor, Genesee;
Mr. Thistlethwaite, Wayne;
J. H. Brown, Schoharie;
Bulmer, Queens.

On Grievances.

Mr. Potter, Washington;
Hepburn, St. Lawrence;
Hammond, Dutchess;
T. A. Case, Chautauqua;
Mr. Winch, Ontario;
Bissell, Niagara;
Crowley, Erie.

On Expenditures of the House.

Mr. Billings, Orleans;
McKee, Herkimer;
S. Baldwin, Allegany;
Taylor, Genesee;
Mr. King, Cattaraugus;
Tighe, Kings;
Sager, Albany.

On Two-thirds and three-fifths Bills.

Mr. Santee, Steuben;
Baker, Washington;
M. L. Baldwin, Yates;
Sheldon, Madison;
Mr. E. Case, Oneida;
Mitchell, New York;
Bradley, Kings.

On Engrossed Bills.

Mr. Welsh, Delaware;
Barnes, Otsego;
G. M. Case, Oswego;
Wickes, Tompkins;
Mr. Billington, Madison;
Ecclesine, New York;
Curran, Albany.

On Public Lands.

Mr. T. A. Case, Chautauqua;
Waddell, Warren;
Noyes, Saratoga;
Valentine, Wayne;
Mr. Winch, Ontario;
Rooney, New York;
Burns, Rensselaer.

On Agriculture.

Mr. Suydam, Kings;
Wickes, Tompkins;
Valentine, Wayne;
Peck, Oswego;
Mr. Thistlethwaite, Wayne;
Brill, Suffolk;
Sliter, Rensselaer.

On Indian Affairs.

Mr. Herbst, Onondaga;
Morey, Livingston;
McFalls, St. Lawrence;
Webb, Dutchess;
Mr. King, Cattaraugus;
Ruggles, Steuben;
Durland, Orange.

On Petitions of Aliens.

Mr. Clark, Wyoming;
Santee, Steuben;
Potter, Washington;
Spicer, Jefferson;
Mr. Skillman, Chenango;
Tabor, Erie;
Stone, Oneida.

On State Prisons.

Mr. Post, Cayuga;
S. Baldwin, Allegany;
Williams, Chautauqua;
Moody, Broome;
Mr. McGraw, Cortland;
Piper, Niagara;
Niven, Sullivan.

On State Charitable Institutions.

Mr. Hayes, New York;
Herbst, Onondaga;
McFalls, St. Lawrence;
Williams, Chautauqua;
Mr. Orr, Erie;
Floyd-Jones, Queens;
Flecke, New York.

On Rules.

Mr. Alvord, Onondaga;
Husted, Westchester;
Hogeboom, Columbia;
Mr. Nachtmann, New York;
Spinola, New York.

On Joint Library.

Mr. Fay, Fulton and Hamilton;
J. S. Brown, Cayuga;
Webb, Dutchess;
Mr. Wemple, Montgomery;
Herrick, Albany.

On Apportionment.

Mr. Alvord, Onondaga;
Hogeboom, Columbia;
Fish, Putnam;
Gallagher, Erie;
Shannon, Cattaraugus;
Marvin, Kings;
Mr. Moody, Broome;
Rooney, New York;
Maynard, Delaware;
Moller, Westchester;
Brill, Suffolk.

Sub-Committee of the Whole.

Mr. J. S. Graham, Monroe;
Langbein, New York;
Holahan, New York;
McGroarty, Kings;
Humphrey, Greene;
Keator, Ulster;
Stephenson, Kings;
Potter, Washington;
Mr. Sanders, Schenectady;
Rice, Lewis;
Stone, Oneida;
Gere, Tioga;
Davenport, Otsego;
J. S. Brown, Cayuga;
Gallagher, Erie;
Clark, Wyoming.

STATE OF NEW YORK.

No. 22.

IN ASSEMBLY,

January 16, 1877.

SIXTH ANNUAL REPORT

OF THE BOARD OF MANAGERS OF THE BUFFALO STATE ASYLUM FOR THE INSANE.

BUFFALO STATE ASYLUM FOR THE INSANE,
OFFICE OF BOARD OF MANAGERS, No. 31 CITY HALL,
BUFFALO, N. Y., *January* 13, 1877.

Hon. GEORGE B. SLOAN, *Speaker of the Assembly:*

DEAR SIR.—I have the honor to inclose herewith the Sixth Annual Report of the Board of Managers of the Buffalo State Asylum for the Insane, and respectfully request that you will present the same to the House.

Very respectfully,
Your obedient servant,
WM. F. ROGERS,
Secretary.

MANAGERS AND OFFICERS.

MANAGERS.— 1. John P. Gray, M. D., Utica, Oneida county; commission expires, April 26, 1878. 2. Asher P. Nichols, Buffalo; commission expires, April 26, 1878. 3. William P. Gould, M. D., Lockport, Niagara county; commission expires, April 26, 1879. 4. Lorenzo Morris, Fredonia, Chautauqua county; commission expires, April 26, 1879. 5. Augustus Frank, Warsaw, Wyoming county; commission expires, April 26, 1880. 6. George Howard, Buffalo; commission expires, April 26, 1880. 7. George R. Potter, Buffalo; commission expires, April 26, 1881. 8. Delavan F. Clark, Buffalo; commission expires, April 26, 1881. 9. James P. White, M. D., Buffalo; commission expires, April 26, 1882. 10. John M. Hutchinson, Buffalo; commission expires, April 26, 1882.

OFFICERS.— James P. White, M. D., President; William F. Rogers, Secretary; Henry Martin, Treasurer; John Walls, Building Superintendent.

Executive Committee.— Asher P. Nichols, James P. White, Geo. Howard, George R. Potter and John M. Hutchinson.

Committee on Grounds.— George Howard, John M. Hutchinson and Delavan F. Clark.

Auditing Committee.— George R. Potter, George Howard and Asher P. Nichols.

REPORT.

To the Honorable the Legislature of the State of New York:

The board of managers of the Buffalo State Asylum for the Insane, have the honor to present to your honorable body their sixth annual report of the condition of the work under their charge, together with a statement of the receipts and expenditures during the year 1876.

On the 31st of December, 1875, there remained in the hands of the treasurer of the board of managers the sum of $1,695.62. The receipts from the State Treasurer to the date of this report were $180,000, making a total of $181,695.62. The expenditures during the same period were $179,177.80, leaving a balance on the 31st of December, 1876, of $2,517.82.

The last annual report presented to your honorable body in January, 1876, stated that there remained in the State treasury, to the credit of this asylum an unexpended balance of $91,400.97. It appears, however, that the former State Comptroller made a final payment to Mr. H. H Richardson, the architect of the asylum, on the basis of a settlement effected by the board of managers by which Mr. Richardson was to receive the sum of $18,000 for all the plans, working drawings, etc., furnished by that gentleman as architect. Of this amount $12,500 had been previously paid by the board, leaving a balance due him of $5,500, which amount the State Comptroller paid with a draft on the State Treasurer on the asylum fund, taking from the architect a receipt in full for all services as such in connection with said asylum. This left the balance in the State treasury on the 31st of December, 1875, $85,900.97. This statement is made to explain the apparent discrepancy that would appear by comparing the two reports.

The following is a statement of all the appropriations made by the Legislature since the commencement of the work on the asylum buildings, the expenditures during the same period, and the balance in the State treasury at the date of this report:

Appropriated by Legislature in 1870	$50,000 00
Appropriated by Legislature in 1871	100,000 00
Appropriated by Legislature in 1872	200,000 00
Appropriated by Legislature in 1873	200,000 00
Appropriated by Legislature in 1874	150,000 00
Appropriated by Legislature in 1875	150,000 00
Appropriated by Legislature in 1876	120,000 00
	$970,000 00

EXPENDITURES.

By board of managers in 1871	$99,375 04	
By board of managers in 1872	225,531 23	
By board of managers in 1873	221,114 12	
By board of managers in 1874	15,667 81	
By Joseph Churchyard in 1874	45,453 69	
By Joseph Churchyard in 1875	86,580 84	
By board of managers in 1875	64,876 30	
By State Comptroller in 1875	5,500 00	
By board of managers in 1876	179,177 80	
		$943,276 83
Amount unexpended		$26,723 17

Balance in State treasury, December 31, 1875	$85,900 97	
Appropriated by Legislature in 1876	120,000 00	
		$205,900 97
Expenditures to date		179,177 80
Unexpended		$26,723 17

Balance in hands of treasurer board of managers, December 31, 1875	$1,695 62	
Received from State Comptroller	180,000 00	
		$181,695 62
Paid drafts of board of managers		179,177 80
Balance in hands of treasurer		$2,517 82

SUMMARY.

Whole amount appropriated	$970,000 00	
Less amount paid by Comptroller	5,500 00	
		$964,500 00
Paid drafts of president of board of managers and Joseph Churchyard		937,776 83
Balance unexpended		$26,723 17
Balance in hands of treasurer board of managers		2,517 82
Leaving balance in State treasury		$24,205 35

The report of Mr. John Walls, building superintendent, to the managers, of which a copy is hereto appended, will acquaint your honorable body with the progress made in the work during the past season, and its condition at the close of the year. The reference therein made to a change of plan, renders a fuller explanation necessary in order that the Legislature may be advised of the motives which governed the board of managers in departing from the original design.

During the years 1871–2, when the contracts for the erection of these buildings were awarded, labor and materials of all kinds commanded much higher prices than during the past two years. This fact, together with the general demand for retrenchment in public expenditures, determined the board of managers to make an effort to bring the expenditures of this asylum to a standard more in accordance with the spirit of the times.

In deliberating upon the most practical measure to accomplish this result, the board took into consideration the propriety of constructing the rear walls of the remaining male wards of brick instead of the red sand-stone used in the administration building and wards A and B. They felt it their duty, however, to ask the opinion of the architect in reference to the propriety of making this change. That gentleman promptly recommended that the entire walls, front and rear, might be constructed of brick, with the red sand-stone trimmings, without interfering with the effect and harmony of the general appearance of the buildings, and, as a matter of economy, strongly urged its adoption upon the board, as it would effect a large saving in the cost — a careful estimate making it not less than $105,000 on the three male wards.

This recommendation was favorably considered by the board, and the architect was requested to furnish drawings of the elevations modified to conform to his suggestion.

When the drawings were received the board determined, if the State authorities would concur, to construct the remaining male wards, C, D and E, entirely of brick, with red sand-stone trimmings. The drawings were accordingly submitted to the Lieutenant-Governor, Attorney-General and Comptroller, and were approved by them, as required by law.

Proposals were then invited for furnishing the materials and labor for prosecuting the work in accordance with the provisions of the law applicable to this asylum, passed by the Legislature in 1875. On the day fixed for receiving the proposals, the executive committee of the board were enjoined from opening the bids by legal proceedings taken by the former contractors, who claimed that their rights were invaded by the action of the managers in inviting new proposals for the work.

Under the advice of counsel it was suggested that arrangements might be made with the contractors for a continuance of the work by a modification of the existing contracts, and thus avoid the delay which must inevitably occur while the injunctions remained in force, and in fact put an end to the work on wards C, D and E, for the year.

The managers, therefore, with a view of carrying out the wishes of the committee of the last Legislature, that the work on wards C, D and E should be pushed forward and the buildings inclosed before the close of last year, adopted the suggestion of their legal adviser, and instructed him to negotiate with the contractors for modifications of their contracts and the removal of the injunctions. This was, after vexatious delays, effected on the tenth of October, by which the brick to be used in the buildings would be furnished by the contractor at a reduction of ninety-five cents per thousand, and the laying of the brick at a reduction of two dollars per thousand, so that the price now paid for brick, delivered on the grounds, is six dollars and fifty cents per thousand, instead of seven dollars and forty-five cents, and the laying of the brick four dollars per thousand, instead of six as stipulated in the original contracts, respectively, and the legal proceedings discontinued without costs.

The board would invite the attention of your honorable body to the desirability of amending, in certain respects, chapter 264 of the Laws of 1875, and chapter 193 of the Laws of 1876. The board have, in their judgment, seen the State seriously embarrassed by a strict compliance with the present statutes, and respectfully recommend a modification of the law of 1875, by limiting the publication of notices inviting proposals to two weeks, and the law of 1876, by obviating the necessity of a second reference of the same subject to the State officers, and giving the managers authority to do work to the amount of $5,000, when the same cannot, in their judgment, be done with advantage by contract.

The managers cannot too earnestly impress upon the Legislature the importance and absolute necessity of placing these buildings in a condition for early occupation. This can easily be accomplished during the present year by an appropriation of not less than $200,000, not including the balance of former appropriations, now in the treasury.

The overcrowded condition of the insane hospitals of the State, and the constantly increasing demand for the proper accommodation and treatment of this most unfortunate class, appeals, in the strongest terms, to the deepest sympathies of humanity, and should prompt you to make the appropriation asked for that the buildings may be utilized at the earliest practical moment.

Respectfully submitted.

JAMES P. WHITE, *President.*
ASHER P. NICHOLS.
JOHN P. GRAY.
WILLIAM B. GOULD.
LORENZO MORRIS.
AUGUSTUS FRANK.
GEORGE HOWARD.
GEORGE R. POTTER.
JOHN M. HUTCHINSON.
DELAVAN F. CLARK.

BUFFALO, *January* 8, 1877.

REPORT OF THE BUILDING SUPERINTENDENT.

To the Board of Managers of the Buffalo State Asylum for Insane:

GENTLEMEN. — I have the honor to report to your honorable body the progress made in forwarding the work of building the Buffalo State Asylum for the Insane during the year 1876.

Your body, with the concurrence of the State board, directed a change of construction of the walls of wards C, D and E, effecting a large reduction in the cost of the same. The time lost before your action was fully determined upon, together with various obstacles, and finally injunctions and their removal, and further, the delay in furnishing stone, threw the time of beginning very late in the season. For these reasons work on wards C, D and E is not as far advanced as was hoped for. However, a few weeks in early spring will see these buildings under roof. The walls are now built up fully one story. The second story joists are about completed. The roofs are under contract and are now being framed.

The walls of the administration building are now completed; roofing well advanced; rough floors laid; window-frames and sash made and partially in walls.

The interior and exterior work on buildings known as workshop, fan-room, engine-room, boiler-room and bakery is finished, with the exception of pointing exterior walls and laying floors of interior.

Kitchen building, when inside doors are made and hung, will be in same condition. Doors are partly made.

In my last report defects in construction of wards A and B were, by your direction, pointed out to you. Since then the slating of these roofs has been taken off and relaid wholly at the expense of the contractor, and now conforms to the specifications. The window-frames therein spoken of have all been taken out, adjusted and reset, by being bedded in mortar, and thereby made air-tight.

Fourteen fire-proof doors, with their appurtenances, have been set up in corridors between the administration building and ward A, also between wards A and B, and B and C.

Four stairways of stone are being built and are now nearly complete.

At a very large expense for adjusting and amending the whole interior of wards A and B, with the exception of considerations for gas and water pipe, is now ready for plastering.

By direction, the main water pipes laid in basements of administration building and wards A and B have been taken out, and enlarged mains laid along the whole line of the rear of administration building and wards A, B, C, D and E, with five hydrants and sufficient valves placed at such distances as suitable for fire purposes and further services of said buildings.

There has been laid 2,175 feet of tile sewers, ranging from eight to fifteen inches, which completes the whole system of sewerage from administration building, wards A, B, C, D, E, kitchen, workshop, etc., to the gorge.

By direction the circuitous plenum to administration building was discontinued, and a plenum, eighty-one feet long, built direct from main plenum, and is now complete. All floors in underground plenums and fan-rooms are now finished and ready for the purpose they were designed for.

The main chimney-shaft is now ready for the cap; when it is put on, will then also be complete.

There has been expended on the farm for grading, draining and cultivating, $3,209.41. This has been done under the special direction and attention of Mr. Howard, of the committee on grounds, and I have no doubt to the great advantage of this work.

We have expended of the appropriations to January 8, inclusive, the sum of $179,177.80, leaving a balance at the same date of $26,723.17.

Estimates.

The following is an estimate of the cost of completing the administration building, male wards A and B; also for wards C, D and E, kitchen, workshop, boiler, engine-house, fan-room and bakery:

Administration Building, Wards A and B, Kitchen, Boiler-house, Workshop, etc.

For plastering and plaster cornices	$15,000 00
For cementing floors	4,000 00
To finish pointing walls on exterior	3,000 00
For heating and ventilating apparatus, with boilers, engine and fans, complete	30,000 00
Due William Baynes, on his contract	5,000 00
For joiner work and hardware	25,000 00
For stone stairs, administration building	6,000 00
For gas-fitting and plumbing	5,000 00
For oiling and finishing wood work	3,000 00
For completing kitchen, bakery and workshop	2,000 00
For tramways	2,500 00
For iron window-guards	10,000 00

Wards C, D and E.

For finishing walls ready for roof	20,000 00
For Mr. Williams, contract for inclosing	10,699 00
For plastering and plaster cornices	9,000 00
For cementing basement floors	2,500 00
For heating	7,000 00
For joiner work	18,000 00
For stone stairways	6,500 00
For plumbing and gas-fitting	3,500 00
For oiling and finishing wood work	2,000 00
For tramways	2,500 00
For iron window-guards	8,000 00
For iron doors in corridors	2,000 00
For iron beams, brick arches, tile floor, bath rooms and water-closets	2,500 00

For improving grounds, building permanent fences and roadways	$20,000 00
For contingencies	301 00
Total	$225,000 00

In submitting this report, I would most respectfully call your attention to the laws under which this work is being done, and recommend that you petition the Legislature for a change of the same. Chapter 264, passed May 12, 1875, says: "The purchasing of material and all things connected with the erection of said buildings, and the labor upon the same, shall be done by the managers thereof by contract. And the contract shall be awarded to the lowest responsible bidder after being advertised in the State paper, and in at least two papers published in the locality where the work is to be done, once in each week for four weeks consecutively, immediately preceding the letting of said work," etc.

I object to the law: First, because it requires all work to be done by contract, which I believe not to be to the best interest of this work.

Second, because a great deal of work to be done can not be intelligently contracted for.

Third, because the State has sufficient appliances to do a large amount of this work as advantageously as any establishment in the city.

From my experience during the progress of this work, I am of the opinion that it would be for the best interest of the State to allow a larger discretion to the managers than is now given.

If the law was put in such shape that when the board, in their judgment, deem it advisable to contract for any portion of this work that they give two weeks' notice instead of four, I believe this would give sufficient time for all competition, and thereby relieve us from the loss of time which occurs when giving notice of said letting.

A detailed statement of expenditures is appended hereto.

Respectfully submitted.

JOHN WALLS,
Superintendent.

ABSTRACT OF RECEIPTS AND EXPENDITURES.

Receipts.

Balance on hand, as per last report	$1,695 62	
Received from State Comptroller	180,000 00	
		$181,695 62

Disbursements.

For laying walls	$34,358 12
For red sand-stone	12,919 25

For cutting and dressing stone	$38,837 31	
For brick	22,311 00	
For labor	39,279 77	
For waterlime cement	1,124 41	
For quicklime	1,930 80	
For lumber	4,971 34	
For building stone	1,698 75	
For sand	1,620 01	
For iron work, beams, etc	2,662 17	
For salaries	4,333 33	
For plans and designs	3,361 80	
For sewer pipe	2,165 24	
For water pipe and fixtures	1,277 42	
For tools and implements	429 15	
For improving grounds	3,872 42	
For printing, advertising, etc	305 15	
For office expenses	267 81	
For expenses of board of managers	180 01	
For miscellaneous	1,272 54	
		$179,177 80
Balance in hands of treasurer board of managers,		$2,517 82

The vouchers enumerated in the detailed statement are on file in the office of the State Comptroller.

DETAILED STATEMENT OF EXPENDITURES DURING THE YEAR 1876.

Jan.	3.	Pay roll for December, 1875, voucher 639	$678 45
	3.	Thomas J. Rogers, tracings, voucher 640	10 00
	3.	Orton S. Clark, Commercial Advertiser to January first, voucher 641	5 00
	14.	Linus Jones Peck & Co., cutting stone, voucher 642	2,573 66
	14.	Linus Jones Peck & Co., extra work, voucher 643	44 62
Feb.	7.	Linus Jones Peck & Co., cutting stone, voucher 644	2,627 31
	7.	Pay roll for January, voucher 645	592 72
	7.	James P. White, rent of office, voucher 646,	50 00
	7.	Pratt & Co., tools, etc., voucher 647	66 51
	7.	Hart, Ball & Hart, labor and material, voucher 648	20 63
	7.	James McSheffrey, repairing roof, voucher 649	58 40
	7.	Whitmore, Rathbun & Co., flagging, voucher, 650	37 50
	7.	Thornton & Chester, coal, voucher, 651	39 25

Feb.	7.	John D. Smith & Co., labor and material, voucher 652	$54 26
	7.	John Walls, disbursements, voucher 653	11 75
	7.	C. W. Miller, livery, voucher 654	10 50
Mar.	6.	Pay rolls for February, voucher 655	1,292 28
	6.	John Walls, disbusements, voucher 656	9 27
	6.	Frank X. Burkard, inspecting steam boiler, voucher 657	11 00
	6.	Thomas Carter, files, voucher 658	6 84
	6.	Linus Jones Peck & Co., cutting stone, voucher 659	2,294 12
	6.	Union Iron Company, iron beams, voucher 660	249 35
	6.	Pratt & Co., merchandise, voucher 661	78 89
	6.	L. H. Byram, coal, voucher 662	60 66
	6.	Blankenburg & Leesum, carving capitals, voucher 663	26 80
April	3.	Pay roll for March, voucher 664	2,462 06
	3.	Linus Jones Peck & Co., cutting stone, voucher 665	1,898 08
	3.	Pratt & Co., merchandise, voucher 666	46 29
	3.	John Walls, traveling expenses and disbursements, voucher 667	32 52
	3.	Wm. F. Rogers, secretary, general office expenses, voucher 668	7 86
	3.	Henry Esser, coal, voucher 669	15 70
	3.	B. Miller & Son, cement, voucher 670	13 92
	3.	F. S. Pease, oil, voucher 671	16 80
	3.	F. X. Burkard, repairing boiler, voucher 672,	3 00
	3.	R. Berkhausen, repairing engine, voucher 673,	7 70
	22.	Wm. Baynes, on account of contract, voucher 674	2,000 00
May	1.	Pay rolls for April, voucher 675	2,177 97
	1.	James P. White, rent of office, voucher 676,	50 00
	1.	Thomas J. Rogers, plans, tracings, etc., voucher 677	75 00
	1.	Powell & Plimpton, merchandise, voucher 678	65 32
	1.	B. Miller & Son, cement, voucher 679	90 00
	1.	Linus Jones Peck & Co., cutting stone, voucher 680	2,411 34
	1.	Linus Jones Peck & Co., extra stone cutting, voucher 681	256 50
	1.	John Keenan, laying walls, voucher 682	1,325 00
	1.	Henry Kirkover, brick, voucher 683	365 26
	1.	Bingham & Morgan, iron castings, voucher 684	254 12
	1.	John Walls, disbursements, voucher 685	3 10
	1.	Henry Martin, treasurer, express charges, voucher 686	5 25

May	1.	L. Kirkover, skew back brick, voucher 687,	$14 00
	1.	L. H. Byram, coal, voucher 688	61 17
	1.	Burrill, McEwen & Co, moving furniture, voucher 689	3 00
	1.	Fairbanks & Co., scales, voucher 690	44 25
	1.	Williamsville Quicklime Co., lime, voucher 691	262 66
June	5.	Linus Jones Peck & Co., stone, voucher 692,	5,000 25
	5.	Linus Jones Peck & Co., extra work, voucher 693	103 50
	5.	Pay rolls for May, voucher 694	2,519 74
	5.	William F. Rogers, secretary, office disbursements, voucher 695	20 35
	5.	Linus Jones Peck & Co., cutting stone, voucher 696	2,256 12
	5.	Howard Iron Works, watchman's clock, voucher 697	28 00
	5.	John Keenan, laying walls, voucher 698	5,900 01
	5.	John Keenan, extra work, voucher 699	562 82
	5.	John Keenan, extra work, voucher 700	201 24
	5.	Nicholas Uebelhoer, building stone, voucher 701	576 95
	5.	B. Miller & Son, cement, voucher 702	135 37
	5.	Williamsville Quick Lime Co., lime, voucher 703	112 43
	5.	Loegler & Ladd, field roller, voucher 704	45 00
	5.	John Lyth & Son, sewer pipe, voucher 705,	88 80
	5.	L. H. Byram, coal, voucher 706	67 00
	5.	Hart, Ball & Hart, sundries, voucher 707	9 12
	5.	Bingham & Morgan, castings, voucher 708,	22 24
	5.	Thomas Carter, files, voucher 709	5 99
	5.	George J. Bryan, advertising, voucher 710,	7 50
July	3.	Pay rolls for month of June, 1876, voucher 711	2,407 81
	3.	Frank & Co., labor and material, voucher 712	19 92
	3.	Joseph Lessler, gravel, voucher 713	47 25
	3.	B. Miller & Son, cement, voucher 714	226 78
	3.	Farrar & Trefts, grate bars, voucher 715	9 75
	3.	Thomas Carter, files, etc., voucher 716	4 95
	3.	Linus Jones Peck & Co., stone cutting, etc., (extra), voucher 717	112 50
	3.	John Keenan, mason work (extra), voucher 718	185 00
	3.	John Walls, disbursements, voucher 719	6 62
	3.	Hall's Safe Lock Co., moving safe, voucher 720	12 00
	3.	Linus Jones Peck & Co., cutting stone, voucher 721	2,111 94
	3.	John Keenan, laying walls, voucher 722	3,285 69

July	3.	Nicholas Uebelhoer, stone, voucher 723	$320	00
	3.	Williamsville Quicklime Co., lime, voucher 724	234	38
Aug.	7.	Pay rolls for month of July, voucher 725...	2,086	58
	7.	Linus Jones Peck & Co., cutting stone, voucher 726..........................	2,707	66
	7.	Linus Jones Peck & Co., extra work, voucher 727	56	25
	7.	George Talbot, building stone stairs, voucher 728	2,000	00
	7.	John Keenan, laying walls, voucher 729....	2,782	80
	7.	John Keenan, extra work, voucher 730.....	336	37
	7.	Henry Kirkover, brick, voucher 731	396	10
	7.	Williamsville Quicklime Co., lime, voucher 732	87	56
	7.	B. Miller & Son, cement, voucher 733......	67	85
	7.	Union Iron Co., iron beams, voucher 734...	31	88
	7.	H. & J. Laycock, lumber, voucher 735	1,561	77
	7.	John Lyth & Sons, sewer pipe, voucher 736,	48	30
	7.	George Jones' Sons, iron doors, voucher 737,	1,458	00
	7.	John Walls, traveling expenses, etc., voucher 738	86	71
	7.	Buffalo city water-works, laying pipe, etc., voucher 739	1,277	42
	7.	Thomas J. Rogers, surveys, etc., voucher 740,	35	00
	7.	The Courier Company, advertising, printing, etc., voucher 741	137	88
	7.	Matthews & Warren, advertising, voucher 742	23	00
	7.	R. Callahan, livery, etc., voucher 743	22	00
	7.	Nicholas Uebelhoer, voucher 744	443	05
	7.	Isaac Holloway, filling, voucher 745	1,469	25
	17.	Lorenzo Morris, expenses attending meetings, voucher 746........................	125	00
Sept.	6.	Pay rolls for month of August, voucher 747,	2,402	28
	6.	Linus Jones Peck & Co., furnishing stone, voucher 748	2,725	50
	6.	Linus Jones Peck & Co., cutting stone, voucher 749	2,431	77
	6.	Linus Jones Peck & Co., extra stone cutting, voucher 750	119	25
	6.	John Keenan, laying wall, voucher 751	3,789	50
	6.	John Keenan, extra work, voucher 752	160	25
	6.	Henry Kirkover, brick, voucher 753	110	79
	6.	B. Miller & Son, cement, voucher 754......	87	94
	6.	Nicholas Uebelhoer, lime-stone, voucher 755,	325	00
	6.	John Lyth & Sons, sewer pipe and branches, voucher 756	196	50
	6.	John O. Smith, sewer pipe and branches, voucher 757........................	196	31
	6.	Hall & Sons, fire-brick and mortar, voucher 758	146	00

Sept.	6.	Pratt & Co., merchandise, voucher 759.....	$135	25
	6.	Pratt & Co., merchandise, voucher 760.....	60	28
	6.	George Talbot, stone stairs, voucher 761 ...	1,500	00
	6.	Powell & Plimpton, merchandise, voucher 762	346	15
	6.	Philip Becker & Co., glass, voucher 763....	129	10
	6.	H. & J. Laycock, lumber, voucher 764.....	185	00
	6.	American District Telegraph Co., telegrams, etc., voucher 765	9	74
	6.	John Walls, traveling expenses, etc., voucher 766	50	99
	6.	Thornton & Chester, coal, voucher 767	15	70
	6.	Worthington & Sill, insurance, voucher 768,	125	00
	6.	Fish & Armstrong, insurance, voucher 769,	125	00
Oct.	9.	Pay rolls for September, voucher 770	2,306	53
	9.	Linus Jones Peck & Co.. cutting stone, voucher 771..............................	2,910	15
	9.	Linus Jones Peck & Co., extra work, voucher 772	91	50
	9.	John Keenan, laying brick and pointing, voucher 773	2,396	02
	9.	John Keenan, extra work, voucher 774	704	01
	9.	John Lyth & Sons, sewer pipe and branches, voucher 775	538	28
	9.	John Walls, disbursements, voucher 776....	66	88
	9.	Hart, Ball & Hart, labor and material, voucher 777	215	58
	9.	Pratt & Co., merchandise, voucher 778	21	00
	9.	P. A. Balcom, pressed brick, voucher 779...	396	00
	9.	John D. Smith & Co., tank, voucher 780...	70	11
	9.	B. Miller & Son, cement, voucher 781......	125	39
	9.	Williamsville Quicklime Co., voucher 782.	283	68
	9.	Mrs. William Ferguson, door clamps, voucher 783....................................	10	00
Nov.	6.	Thomas J. Rogers, plans and tracings, voucher 784..........................	25	00
	6.	Albany Evening Journal, advertising, voucher 785..........................	29	00
	6.	Pay rolls for October, 1876, voucher 786....	2,285	19
	6.	Henry Kirkover, brick, voucher 787.......	13,000	00
	6.	Linus Jones Peck & Co., cutting stone, voucher 788..........................	3,786	66
	6.	Linus Jones Peck & Co., cutting stone from reserve, voucher 789..................	3,550	00
	6.	George Talbot, stone stairs, voucher 790....	1,500	00
	6.	John Keenan, horses, wagon and harness, voucher, 791..........................	500	00
	6.	John Keenan, laying walls, voucher, 792...	3,676	51
	6.	Fred. Law Olmstead, landscape architect, voucher 793..........................	250	00
	6.	Wm. H. Greene, legal services, voucher 794,	150	00

Nov.	6.	Timothy McDonough, 100 tons straw, voucher 795	$150 00
	6	William Baynes, labor and material, voucher 796	1,000 00
	6.	John Walls, disbursements, voucher 797	25 32
	6.	Irving Kester & Co., seed, voucher 798	64 36
	6.	John D. Smith, sheet copper, voucher 799	1,088 40
	6.	B. Miller & Son, cement, voucher 800	166 61
	6.	Powell, Plimpton & Co., merchahdise, voucher 801	262 02
	6.	Pratt & Co., merchandise, voucher 802	156 65
	6.	Williamsville Quicklime Company, voucher 803	250 17
	6.	George Howard, hemlock lumber, voucher, 804	260 80
	6.	S. D. Colie & Co., pine lumber, voucher 805,	910 72
	6.	R. C. Leighton, steam coal, voucher 806	13 97
	6.	H. & J. Laycock, lumber, voucher 807	830 09
	6.	Union Iron Company, irom beams, voucher 808	215 90
	23.	Jacobs & De Rue, plowing on farm, voucher 809	150 00
	23.	John Meyers, plowing, voucher 810	42 00
Dec.	4.	Linus Jones Peck & Co., cutting stone, voucher 811	5,700 78
	4.	John Keenan, laying brick, voucher 812	6,800 00
	4.	Henry Kirkover, furnishing brick, voucher 813	1,938 85
	4.	Union Iron Company, iron beams, voucher 814	557 17
	4.	A. J. Warner, supervising architect, voucher 815	3,000 00
	4.	Pay rolls for November, voucher 816	3,432 81
	4.	William Baynes, on account of contract, voucher, 817	4,000 00
	4.	Thos. J. Rogers, surveying, etc., voucher 818,	87 50
	4.	Williamsville Quicklime Company, lime, voucher 819	637 30
	4.	B. Miller & Son, cement, voucher 820	185 60
	4.	Citizens' Gas Company, coal tar, voucher 821,	117 50
	4.	Guiteau & Hodge, coal tar, voucher 822	60 00
	4.	Pratt & Co., merchandise, voucher 823	59 40
	4.	H. & J. Laycock, lumber, voucher 824	410 16
	4.	The Courier Company, advertising and printing, voucher 825	66 27
	4.	Thos. Carter, recutting files, voucher 826	9 87
	4.	Fred. Thomas, painting, voucher 827	39 77
	4.	Valentine & Bro., locks and bolts, voucher 828	127 50
	4.	John Walls, disbursements, voucher 829	18 99
	4.	Park Commissioners, fire-proof safe, voucher 830	50 00

Dec.	4.	Wm. F. Rogers, secretary, disbursements, voucher 831	$22 01
	4.	Joseph Lessler, gravel, voucher 832	6 56
	4.	Jno. Lyth & Son, pipe drains, voucher 833	997 05
	11.	Frank & Co., castings, etc., voucher 834	5 64
	11.	Powell & Plimpton, merchandise, voucher 835	202 47
	11.	Whitmore, Rathbun & Co., stone flagging, voucher 836	12 00
	21.	Linus Jones Peck & Co., furnishing stone, voucher 837	5,173 50
	21.	Wm. Baynes labor and material, voucher 838,	38 82
	30.	Pay rolls for December, voucher 839	1,986 08
1877.			
Jan.	8.	Henry Kirkover, brick, voucher 840	6,500 00
	8.	Linus Jones Peck & Co., cutting stone, voucher 841	793 80
	8.	Nicholas Uebelhoer, stone, voucher 842	33 75
	8.	John Keenan, laying walls, voucher 843	2,252 90
	8.	Wm. Baynes, labor and material, voucher 844	2,000 00
	8.	S. D. Colie & Co., picked lumber, voucher 845	443 12
	8.	C. P. Hazard & Bro., lumber, voucher 846,	369 68
	8.	John D. Smith, labor and material, voucher 847	300 00
	8.	George Talbot, sand, voucher 848	1,620 01
	8.	Williamsville Lime Company, lime, voucher 849	62 08
	8.	B. Miller & Son, cement, voucher 850	24 95
	8.	D. B. McNish, roofing felt, voucher 851	26 76
	8.	Penrhyn Slate Company, slate and nails, 852,	125 00
	8.	Bingham & Morgan, castings, voucher 853,	11 44
	8.	Powell & Plimpton, merchandise, voucher 854	60 00
	8.	Pratt & Co., merchandise, voucher 855	60 98
	8.	Niagara Bridge Works, iron work, voucher 856	10 00
	8.	A. A. Justin, iron work, voucher 857	26 70
	8.	Young, Lockwood & Co., printing, voucher 858	6 00
	8.	Matthews & Warren, advertising, voucher 859	25 50
	8.	The Courier Company, advertising, voucher 860	10 00
	8.	John Walls, superintendent, disbursements, voucher 861	25 85
	8.	J. B. Griffin & Co., feed, voucher 862	32 25
			$179,177 80

STATE OF NEW YORK.

No. 23.

IN ASSEMBLY,

January 16, 1877.

COMMUNICATION

FROM THE SECRETARY OF STATE, IN REPLY TO A RESOLUTION OF THE ASSEMBLY, RELATIVE TO APPROPRIATIONS MADE FOR THE CENSUS OF 1865 AND 1875.

STATE OF NEW YORK:

OFFICE OF THE SECRETARY OF STATE,
ALBANY, *January* 16, 1877.

To the Hon. GEORGE B. SLOAN, *Speaker of the Assembly:*

SIR. — I have the honor to acknowledge the receipt of the following resolution, adopted by the Assembly on the twelfth inst.:

"*Resolved*, That the Secretary of State is hereby requested to transmit without delay to the Assembly a statement of the amount of money already appropriated for the compilation, revision, and for the payment of extra clerks, and for other expenses in his department, in the preparation, tabulation, printing and binding of the census of 1875, together with a statement of the amount appropriated for defraying like expenses of the census of 1865."

As the records containing the information sought by this resolution are not preserved in the office of the Secretary of State, but in the office of the Comptroller, I addressed a copy of the resolution to that officer, from whom I have received the reply which I have the honor to annex.

I am, sir, with great respect,
Your obedient servant.
JOHN BIGELOW.

STATE OF NEW YORK:

COMPTROLLER'S OFFICE,
ALBANY, *January* 13, 1877.

Hon. JOHN BIGELOW, *Secretary of State:*

MY DEAR SIR. — In compliance with your request, and agreeably to the resolution of the Assembly, I inclose herein the information desired, to wit, the appropriations made for the census of 1865 and 1875.

I am, most truly yours.

F. P. OLCOTT,
Comptroller.

STATE CENSUS.

APPROPRIATIONS, 1865.

Chapter 347, Laws of 1864	$10,000
Chapter 598, Laws of 1865	40,000
Chapter 598, Laws of 1865	1,000
Chapter 598, Laws of 1865	500
Chapter 481, Laws of 1867	12,500
Total	$64,000

APPROPRIATIONS FOR CENSUS OF 1875.

Chapter 40, Laws of 1875	$40,000
Chapter 193, Laws of 1876	30,000
Total	$70,000

STATE OF NEW YORK.

No. 24.

IN ASSEMBLY,

January 16, 1877.

REPORT

OF THE THOMAS ASYLUM FOR ORPHAN AND DESTITUTE INDIAN CHILDREN.

To the Honorable the Legislature of the State of New York:

The managers of the Thomas Asylum for Orphan and Destitute Indian Children, in pursuance of chapter 162 of the Laws of 1875, would respectfully submit the following report, showing the financial condition of the said asylum, and the number of children supported therein during the fiscal year ending September 30, 1876.

The said asylum was incorporated by special act of the Legislature of the State of New York, per chapter 223 of the Laws of 1855, and reorganized per chapter 162 of the Laws of 1875.

SCHEDULE A.

Financial Statement.

Value of real estate and buildings	$20,000 00	
Value of personal property, including furniture	3,000 00	
Total		$23,000 00
Received during the fiscal year ending Oct. 1, 1876:		
From the State of New York for the support of children	$7,554 76	
From United States Indian Department,	1,000 00	
From donations	10 50	
From annuities of Indian children	15 78	
From articles sold	880 93	
Remaining in hands of treasurer end of last fiscal year	510 29	
Total receipts		$9,972 26

Expenditures during the year:

For breadstuff	$971 41	
For meat	607 72	
For other provisions and groceries	1,006 35	
For clothing	1,171 10	
For salary of superintendent	600 00	
For wages of matron	400 00	
For wages of other laborers	1,901 14	
For house furnishing and repairs	293 46	
For fuel and lights	244 75	
For tools and blacksmithing	149 73	
For stock and feed for stock	583 50	
For rent of land, seeds and manure	294 80	
For traveling expenses	29 99	
For medical and funeral expenses	148 73	
For broom material	496 55	
For permanent improvement	36 00	
For stationery and postage	15 03	
For exchange	2 55	
For unclassified items	16 45	
Whole amount of disbursements		$8,969 26
Add cash in hands of the treasurer		441 09
Add cash yet to be received from articles sold		297 00
Add cash in hands of superintendent		264 91
We have total as above		$9,972 26

SCHEDULE B.

Statement of the number of Orphan and Destitute Children supported by the Institution during the year ending Sept. 30, 1876.

No.	Names.	Age.	Sex.	Reservation.	No. of days.
1	Martin Williams	13	Male	Cattaraugus	366
2	Jimmy Halfwhite	15	Male	Cattaraugus	366
3	Morris Greene	11	Male	Tonawanda	366
4	Charles Smith	Dead.	Male	Cattaraugus	288
5	Walter Kennedy	11	Male	Cattaraugus	366
6	Silas Chew	12	Male	Tuscarora	366
7	Anson Jimison	16	Male	Allegany	274
8	Peter Doctor	12	Male	Tonawanda	366
9	Truman Snow	13	Male	Cattaraugus	366
10	Silas Snow	10	Male	Cattaraugus	366
11	Cyrus Button	17	Male	Cattaraugus	366
12	Griffith Krouse	17	Male	Cattaraugus	366
13	Jacob Jimison	12	Male	Cattaraugus	366
14	Chauncey Pierce	10	Male	Cattaraugus	366
15	George Logan	11	Male	Cattaraugus	366
16	Henderson Logan	9	Male	Cattaraugus	366
17	Edward Dudley	8	Male	Cattaraugus	366

No.	Names.	Age.	Sex.	Reservation.	No. of days.
18	William Seneca........	15	Male...	Allegany......	366
19	Emerson Pierce........	7	Male...	Cattaraugus ...	366
20	De Forest Shongo.....	10	Male...	Allegany......	366
21	Levi Thompson.......	12	Male...	Tuscarora	366
22	Fred. Jimison	9	Male...	Allegany......	366
23	Morris Lee...........	10	Male...	Allegany......	366
24	Russel Printup	10	Male...	Allegany......	366
25	Abram Printup.......	9	Male...	Allegany......	366
26	Eugene Fatty.........	9	Male...	Allegany......	366
27	Joseph Lay...........	9	Male...	Cattaraugus ...	366
28	Newton Bennett......	8	Male...	Cattaraugus ...	366
29	Peter Smith..........	11	Male...	Tonawanda....	366
30	Newton Smith........	9	Male...	Tonawanda....	366
31	George Lee	12	Male...	Allegany......	366
32	Moses John	8	Male...	Allegany......	366
33	Horatio Jimison	8	Male...	Cattaraugus ...	366
34	Thomas Beaver.......	9	Male...	Cattaraugus ...	366
35	Tip Thompson.	13	Male...	Cattaraugus ...	366
36	Henry Thompson	12	Male...	Cattaraugus ...	366
37	Benj. Jimison	6	Male...	Cattaraugus ...	366
38	Jacob Jimison........	Dead.	Male...	Allegany......	225
39	William Hotchkiss....	14	Male...	Tonawanda....	366
40	Hiram Taylor	5	Male...	Cattaraugus ...	366
41	Levi Cook	11	Male...	Cattaraugus ...	322
42	Jimmy Crow..	8	Male...	Cattaraugus ...	322
43	William Jones........	4	Male...	Cattaraugus ...	322
44	Willis Anderson......	7	Male...	Tuscarora	330
45	Charles Kennedy......	14	Male...	Tonawanda....	366
46	Orlando Doxtater.....	10	Male...	Cattaraugus ...	92
47	George Doxtater......	6	Male...	Cattaraugus ...	92
48	Sherman Anderson....	5	Male...	Tuscarora	330
49	Peter Thomas	12	Male...	Cattaraugus ...	316
50	Augustus Moody......	9	Male...	Cattaraugus ...	311
51	Andrew Jackson......	14	Male...	Cattaraugus ...	311
52	Aby Ballard..........	21	Female.	Cattaraugus ...	366
53	Helen Jones..........	20	Female.	Cattaraugus ...	366
54	Josie Kennedy	12	Female.	Cattaraugus ...	366
55	Emily Chew	17	Female.	Tuscarora	366
56	Marth Winney........	13	Female.	Cattaraugus ...	366
57	Betsey Winney	11	Female.	Cattaraugus ...	366
58	Orply Winney........	10	Female.	Cattaraugus ...	366
59	Mary Turkey.........	13	Female.	Cattaraugus ...	366
60	Mary Greene.	17	Female.	Cattaraugus ...	366
61	Louisa Greene........	10	Female.	Cattaraugus ...	366
62	Fidelia Jimison.......	10	Female.	Cattaraugus ...	366
63	Sophie Krouse........	12	Female.	Cattaraugus ...	366
64	Hattie Logan.........	11	Female.	Cattaraugus ...	366
65	Lorinda Brooks.......	9	Female.	Cattaraugus ...	366
66	Alice King...........	8	Female.	Cattaraugus ...	366

No.	Names.	Age.	Sex.	Reservation.	No. of days.
67	Ida Shrugo	Dead.	Female.	Cattaraugus ...	354
68	Sylvia Pierce.........	11	Female.	Cattaraugus ...	366
69	Matilda Pierce........	9	Female.	Allegany	183
70	Jenny Jackson........	7	Female.	Cattaraugus ...	366
71	Alice Montpleasant....	7	Female.	Tuscarora	366
72	Effie Johnson	11	Female.	Cattaraugus ...	366
73	Juniata Johnson......	9	Female.	Cattaraugus ...	366
74	Lillie Printup	10	Female.	Tuscarora	366
75	Julia Jackson	8	Female.	Cattaraugus ...	366
76	Jerusha Jackson	10	Female.	Cattaraugus ...	366
77	Phebe Warrior	12	Female.	Cattaraugus ...	366
78	Amanda Jimison......	11	Female.	Cattaraugus ...	366
79	Ella Jimison	10	Female.	Cattaraugus ...	366
80	Abby Bennett.........	10	Female.	Cattaraugus ...	366
81	Eliza Waterman	16	Female.	Cattaraugus ...	366
82	Sarah Waterman......	14	Female.	Cattaraugus ...	366
83	Mabel Snow..........	Dead.	Female.	Cattaraugus ...	160
84	Fanny Fatty..........	14	Female.	Allegany......	366
85	Mary Jones	11	Female.	Onondaga	366
86	Sarah Taylor	15	Female.	Cattaraugus ...	366
87	Florence Anderson....	9	Female.	Tuscarora	330
88	Alice Thomas.........	10	Female.	Cattaraugus ...	316
89	Amanda Moses	7	Female.	Tonawanda....	311
90	Ida Cooper...........	4	Female.	Tonawanda....	108
91	Martha Wheeler	12	Female.	Cattaraugus ...	258
92	Hattie Wheeler.......	6	Female.	Cattaraugus ...	258
93	Louisa Krouse........	5	Female.	Cattaraugus ...	183
94	Olive Bennett	4	Female.	Cattaraugus ...	62
95	Sylvia Shanks	8	Female.	Cattaraugus ...	92
96	Edith Shanks.........	6	Female.	Cattaraugus ...	62
97	Mary Davis	15	Female.	Cattaraugus ...	62
	Total				31,894

LEWIS SENECA, *President.*
E. M. PETTIT, *Treasurer.*
B. F. HALL, *Clerk.*

SIXTH ANNUAL REPORT

OF THE

State Homœopathic Asylum for the Insane,

AT

MIDDLETOWN, N. Y.,

January, 1877.

TRANSMITTED TO THE LEGISLATURE JANUARY 16, 1877.

JEROME B. PARMENTER, STATE PRINTER.
1877.

STATE OF NEW YORK.

No. 25.

IN ASSEMBLY,

January 16, 1877.

SIXTH ANNUAL REPORT

OF THE

STATE HOMŒOPATHIC ASYLUM FOR THE INSANE, AT MIDDLETOWN, N. Y.

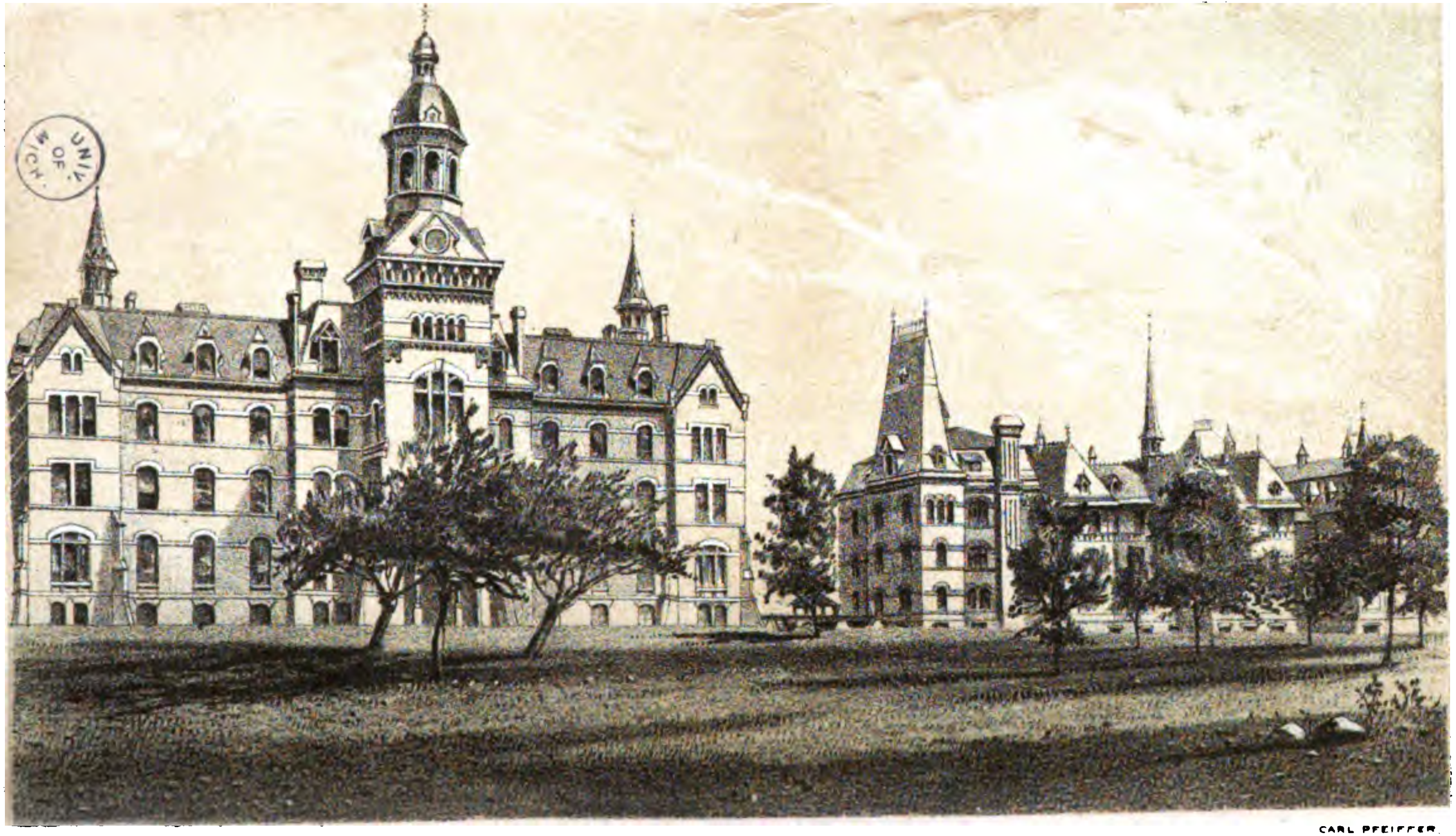
MIDDLETOWN, N. Y., *January*, 1877.

To the Honorable JAMES W. HUSTED,
Speaker of the Assembly:

SIR. — I have the honor to transmit to you the Sixth Annual Report of the State Homœopathic Asylum for the Insane, at Middletown, and beg that you will present the same to the Legislature in the House of Assembly.

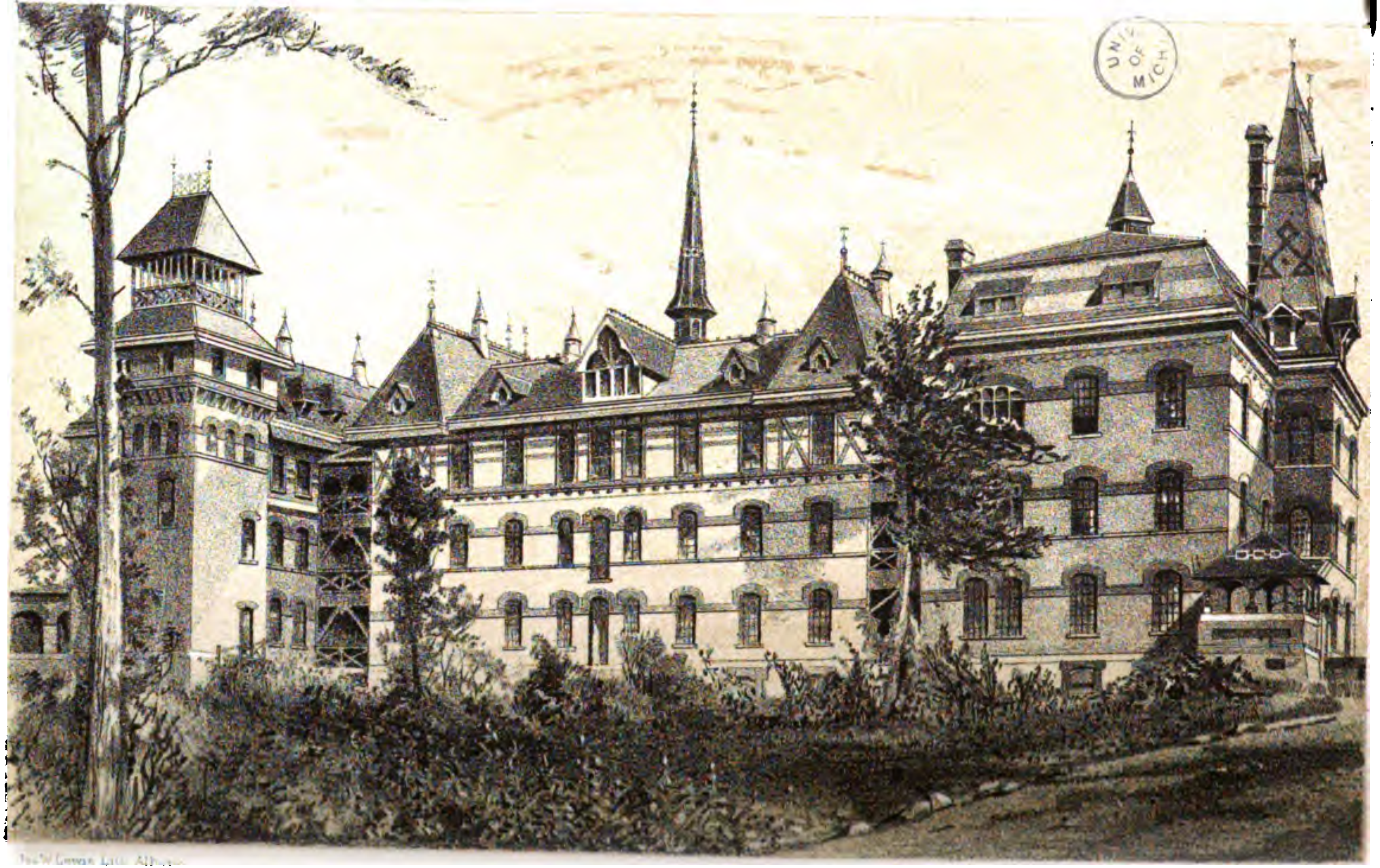
FLETCHER HARPER, JR.,
President.

UNIV. OF MICH.



CARL PFEIFFER.
NEW YORK

STATE HOMŒOPATHIC ASYLUM

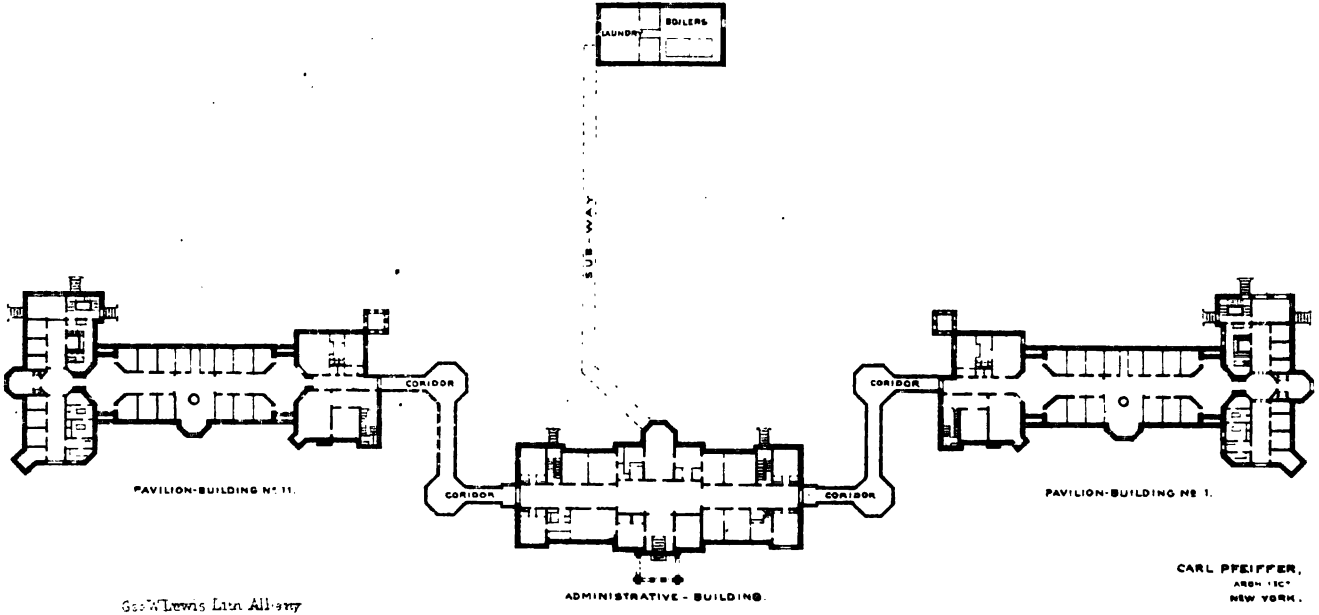


UNIV OF MICH

Jas. W. Cowan Lith. Albany

STATE HOMŒOPATHIC ASYLUM
FOR THE INSANE

CARL PFEIFFER
NEW YORK



CARL PFEIFFER,
ARCHITECT
NEW YORK.

Geo W Lewis Lith Albany

STATE HOMŒOPATHIC ASYLUM
FOR THE INSANE.

REPORT.

To the Legislature of the State of New York:

The trustees of the State Homœopathic Asylum for the Insane, at Middletown, herewith respectfully submit to your honorable body their sixth-annual report, it being the third report since the opening of the institution for the reception of patients.

At the annual meeting held June 15, 1876, the officers of the previous year were unanimously re-elected, and, under a new by-law, then and there adopted, the number of committees of the board was reduced to three, as follows:

Executive Committee — Grinnell Burt, M. D. Stivers, U. T. Hayes.

Building Committee — Dr. Joshua Draper, Nath. W. Vail, Daniel Thompson.

Visiting Committee — Dr. Egbert Guernsey, Dr. H. M. Paine and J. G. Graham.

The resignation of Dr. W. H. Watson, of Utica, as trustee, was received, and Dr. A. E. Sumner, of Brooklyn, was unanimously recommended by the board to the Governor, to fill the vacancy thus caused.

Mr. John Cochran, who, under the title and compensation of book-keeper, had been performing the duties of several officers, was duly appointed steward of the asylum, with a proper increase of salary.

At the same meeting an amendment to the by-laws was adopted, by which the day of annual meeting of the board was changed from the third Thursday in June to the first Thursday after the first Monday in December of each year, thus bringing the expiration of the fiscal year on the thirtieth of November, and in uniformity with that of the other State asylums and departments.

The contracts for the heating and ventilation, the plumbing and the window-guards of the new pavilion building, and also for the basement portion of the corridor connecting therewith — alluded to in our last report as being in progress — were completed, and the building formally accepted from the contractors by the board, on the

29th of May, 1876. On the sixteenth of the following month the male patients were transferred to the new building, and the middle ward of the administrative building thus vacated was put in perfect order. On the eleventh of August it was first occupied by female patients as an "intermediate" ward, drawing the most disturbing cases from our best or "convalescent" ward, and the quieter cases from our "violent" ward, much to the comfort and relief of the whole department.

Proposals for the completion of the connecting corridor, by the addition, according to the original plan, of an upper floor, leading from the officers' hall of the administrative building to the first floor of the pavilion, were issued on the thirtieth of May by the building committee; the contract awarded on the twenty-eighth of June, to Mr. Edwin M. Williams, of Middletown, for the sum of $4,619; and on the twenty-sixth day of October the finished corridor was accepted by the board, and has proved itself, as was to have been expected, a very great convenience in the detail of management and communication between the two buildings. Through its basement portion a wooden track is laid, upon which a food-car (somewhat improved upon that in use at the Utica asylum) conveys meals and supplies from the kitchen in the administrative building to the dining rooms of the pavilion.

Meanwhile the board had entered into contract with the Middletown Gas-light Company, by which the asylum was to be furnished, at a specified rate, for a period of five years, with an independent supply from the company's receivers, and coal gas was first introduced into the asylum buildings on the evening of July 25th, 1876, bringing with it a degree of cleanliness, comfort and a sense of safety which we had never enjoyed under the former gasoline *regime.*

Within the past year our laundry has been much improved by the introduction of superior power machinery, viz., three large washers, a centrifugal wringer and a small mangle, all driven by a fifteen-horse engine.

The heating and ventilation of our new building, the pavilion, by indirect radiation, has thus far proved very satisfactory; more so, indeed, than that of the administrative building, in which direct radiation is employed. The temperature of the latter building has been greatly improved by the recent transfer of several large radiators and box steam coils from the officers' hall, and certain air-shafts, where they were of little importance, to the most exposed points of the first and second patients' wards, where additional heat seemed to be required. Storm doors have also been used on all rear entrances, and, if "double sash" could be added to the windows on the north-easterly and westerly sides of the building, our warmth would be fully assured.

Our water supply and facilities for the extinguishment of fires has been improved since our last report: (1) by a more direct connection with the town reservoir by means of a five-inch suction pipe; (2) by the connection of all the outside fire hydrants and inside fire-plugs of the pavilion with a four-inch discharge pipe; and (3) by the provision of 500 feet of the Blake patent hose, making, in all, 900 feet of available hose on hand.

The impurity of our water supply, owing to certain defects in the town supply from which it is derived, has been, from the first, a source of much discomfort and anxiety, impairing the efficiency of our laundry operations and being unfit and unsafe for cooking and drinking purposes, for which our main reliance has been the well at the rear of the administrative building, and that near the site of the old farm house. When, however, during the drouth of the past summer, these wells gave out, the question of a permanent, sufficient, pure and healthful water supply to the institution became one of paramount importance. The board, after conference with the State Commissioner in Lunacy, decided to construct a large well, which could also be connected, at will, with the pipes which carry off the roof water of the two buildings. This well, which, at date of this report, is in progress of construction near the boiler house, is eight feet in diameter, with a depth of thirty feet, and an average capacity of 14,000 gallons, and being connected with our large double pump by a four-inch suction pipe, will, it is hoped, afford a sufficient supply, to the laundry and to the buildings, of much purer water than we have ever yet enjoyed. The "Monhagen," or public supply, which we have thus far used, can still be employed for supplying boilers (as it is free from the elements of "scale"), for extinguishment of fires, washing of areas and outside of buildings, for irrigation of grounds around the buildings in summer drouths, etc., etc.

The railway switch formerly used during the construction of our buildings, and which ran directly in their rear, has lately been changed so as to deliver coal at the dump in the rear of the boiler house. Its extreme length is 756 feet, of which 540 feet is built upon substantial stone embankment, and 216 feet on trestle work.

There is also a new side switch of earthwork, 210 feet in length. The first train of coal cars passed over it on the 7th of August, 1876. When we state that during the past year the unloading and hauling of our coal from the old track to the boiler-house, a distance of 400 feet, consumed 122 days of labor for our farmer's men and carts (together with such occasional help as we could get from patients), it will be seen how great a saving of expense will be effected in the future by this much needed change.

The "grading" and connecting of main (asylum) roadway with the highway of Middletown ("Monhagen avenue"), for which an appropriation was made last winter by your honorable body, has been effected, in conjunction with the village authorities, in a substantial manner, giving us a much needed and more direct means of communication with the village.

The slopes of ground in front of both buildings, about two and one-half acres, have been handsomely and economically graded, and the whole immediate surroundings cleared up and much improved. Still much remains to be done in this direction before our grounds reach that degree of ornamentation which will render them available as a means of cure to our patients.

In our last report we spoke of our farm as being "rough and pretty well run down before it came into possession" of the State. These disadvantages must continue to operate against its productiveness until we have more means and help to place it in a proper condition for farming than we have yet had. We have about 125 acres under cultivation, and about seventy-five acres in woodland, the total area of the farm being 201 acres. In this connection we have to record the loss by fire, on the night of the 1st of March, 1876, of the old farm-house, in which our farmer's family resided. Its loss was partly covered by an insurance of $2,000, which amount was duly paid over to our treasurer.

In regard to our farm buildings, we still have to say of them, as we did last year, that they "will never be equal to our growing wants; that they are unworthy of repair, and should be replaced by new as soon as practicable." With the coming spring we shall receive the appropriations granted us last winter for these purposes, and hope to be able to place them, as well as the farm fences, and fences around the immediate vicinity of the buildings, in proper shape.

The report of the medical superintendent, hereunto appended (marked B), will be found to present interesting and encouraging statistics and information concerning the operations of the medical department of the asylum, for the year past.

The treasurer's report, hereto appended (marked A), presents our financial operations with sufficient clearness of detail.

Having thus set forth to your honorable body our history and our operations for the past year, we now desire to state our wants for the coming year:

1. *More laundry room.* Our laundry occupies one-half of the boiler-house building, and although an extension (18x24 feet in size) was made to it last year, yet the absorption of about the same amount of space for reception of the engine and large pump, the latter of which was crowded out of the boiler-room by the introduction of a new (third) boiler, has practically left us with no more laundry room than we had before. In the not improbable event of another (fourth) boiler being added during the coming year, still more of the laundry room will have to be absorbed to accommodate this machinery, and, at all events, its area will have to be considerably encroached upon by a contemplated and much needed extension of the drying-room, which, at present, does not afford sufficient capacity for drying clothes as rapidly as they are washed by the new washing machinery.

In the two previous reports of the medical superintendent to the board, he called their attention to the lack of proper accommodations, for house servants and employes, but in the then embarrassed condition of the asylum finances, the board felt unwilling to press the matter upon the notice of the Legislature as its importance really demanded. The medical superintendent, however, in his report of 1875, was permitted to state the case as follows:

"A suitably located frame house, where our laundry and other domestic help can be lodged, fed and kept more completely apart from our hospital department, will free us very largely from the numerous inconveniences of management and domestic arrangement which form an endless source of trouble in such an institution where domestics are brought under the same roof as patients. By freeing our basement rooms of lodgers we could also obtain abundant store room, of which we are now almost totally deprived, by reason of their being used as sleeping rooms. I have another cogent reason, also, for urging this point, viz., that our basement rooms, while well adapted for storage purposes, are not fit or healthful living rooms, and on sanitary grounds should not be used as such."

It seems, then, to your board, that the desired accommodation, both for more laundry room and for better lodgings for domestics, might be properly secured — as it is done at some other asylums — by the erection of a suitably located frame building, the lower floor of which should be devoted to the purposes of a laundry and the upper floor to the proper lodging of our help.

This would also surrender to our steam-heating purposes the additional space in the boiler-house which is now devoted to the laundry, and which will inevitably be called for by future boiler-house needs.

2. Certain improvements are needed in our steam-heating, viz.: We find that the "Tupper gate bar," supplied to one of our boilers, gives us a result of 150 pounds saved on a ton of coal, and economy dictates their use on all our boilers. We should also save much steam-heat that is now lost, if the six-inch main through the sub-way (about 500 feet), the 200 feet of five-inch pipe leading to the pavilion through the corridor, as well as the steam-pipes in the basement of that building were properly felted.

It seems more than probable that the extra amount of heating and fan ventilation demanded by the pavilion, will oblige us, before another winter, to provide a boiler in addition to the three already in use. We also need improved boiler fronts for the better working of the two original boilers.

3. In addition to our present ward fire-hose, etc., we should have in our buildings a sufficient supply of some approved fire extinguisher.

4. In regard to grading and ornamentation of the grounds, very much yet remains to be done.

5. We need the means to cultivate our farm more closely and to bring it to that point of productiveness which shall render it largely available to the self-support of the institution. Poor and impoverished as it is, it is still capable, by assiduous care, of being brought, in due time, into this desirable condition. Enrichment of some portions, drainage of others, especially some of its side hills, and clearing away of stones and stumps from other parts, will eventually develop satisfactory results.

It is also very desirable that a new farm-house should be built to replace the old one destroyed by fire, and before mentioned. Since that event the farmer has resided at another house at the further end of the farm, which leaves the barns, stables and the bulk of the farm buildings much exposed to fire and depredation, as well as entailing great inconvenience and extra labor upon him and the farm hands in the daily course of their work. The new farm-house should be located not far from the site of the old one, and where it would be of convenient access both to the asylum and the farm buildings.

We shall need, in addition to the sum appropriated last winter, a further appropriation to enable us to place our farm buildings, such as barns, carriage-house, stables, sheds, etc., together with the farm fences and fences around the grounds in the immediate vicinity of the asylum, in good condition.

The usual tabulated statement of estimated expenses is submitted, as follows:

Maintenance	$10,000 00
Grading	3, 000 00
Tree planting	500 00
Farm fencing	2,000 00
Farm improvements	2, 000 00
Farm stock and implements	2, 000 00
Farm buildings	2, 000 00
Laundry extension	700 00
Additional steam-heating	2,500 00
New boiler and setting	2,600 00
New farm-house	1,500 00
Water supply	2,000 00
Legal expenses, Foote suit	1, 000 00
Salary of building superintendent for balance of his term, as per chapter 193, Laws State of New York	2,000 00
Total	$33,800 00

Entreating from your honorable body the same degree of careful and favorable consideration which has always been granted to their previous requests, the board respectfully present this report of their doings during the year ending November 30, 1876.

Respectfully submitted, by order of the board.

FLETCHER HARPER, Jr.,
President.

(A.)

TREASURER'S REPORT.

MIDDLETOWN, N. Y., *December* 1, 1876.

U. T. HAYES, *Treasurer, in account with State Homœopathic Asylum for the Insane.*

Dr.

1876.	
To cash on hand at last report (1875)	$3,489 16
To cash from Comptroller	110,220 51
To cash from patients (private board)	15,246 00
To cash from patients (county board)	9,220 28
To cash from patients (for clothing sold)	1,536 11
To cash from patients (for furniture destroyed)	326 40
To cash from farm (for produce sold)	79 02
To cash from steward's supplies (sold)	22 75
To cash from postage refunded	1 60
To cash from engineer's supplies (sold)	33 40
To cash from house grounds (pipe sold)	7 04
To cash from wages refunded	4 20
To cash from insurance (on farm-house burned)	2,000 00
To cash refunded by contractors	502 50
	$142,688 97
Dec. 1. To cash on hand, as per balance	$2,440 10

Cr.

By cash paid on account of pavilion building No. 1	$56,015 18
By cash paid on account of steward's supplies	19,081 09
By cash paid on account of patients' clothing	1,946 61
By cash paid on account of medical supplies	1,203 27
Carried forward	$78,246 15

Brought forward	$78,246 15
By cash paid on account of postage and stationery	1,010 80
By cash paid on account of travel	787 64
By cash paid on account of fuel and light	6,336 34
By cash paid on account of house furnishing	14,670 78
By cash paid on account of building repairs	1,869 88
By cash paid on account of engineer's repairs	1,833 68
By cash paid on account of house grounds	1,758 43
By cash paid on account of farm expenses	3,560 74
By cash paid on account of farm stock	1,089 60
By cash paid on account of officers' salaries	6,513 36
By cash paid on account of house wages	9,403 50
By cash paid on account of board refunded	481 38
By cash paid on account of corridor	4,416 00
By cash paid on account of railway switch	1,606 77
By cash paid on account of legal expenses	1,392 95
By cash paid on account of laundry machinery	3,000 00
By cash paid on account of water supply	270 87
By cash paid on account of gas supply	2,000 00
Balance on hand	2,440 10
	$142,688 97

At a meeting of the audit committee, held this day, the foregoing account was audited, and the several items examined and compared with the vouchers certified by the superintendent, and duly authorized by the chairman of the executive committee, and the said account was found properly stated and balanced.

Signed by order of the committee.

GRINNELL BURT,
Chairman.

(B.)

MEDICAL SUPERINTENDENT'S REPORT.

In obedience to the requirements of the by-laws of the State Homœopathic Asylum for the Insane, the undersigned presents to its board of trustees his third annual report of the medical operations and progress of the institution.

At the date of the last report, November 30, 1875, there were eighty-two patients in the institution, since which 113 have been admitted (of whom fifty-three were males and sixty females) and 110 have been discharged as cured, improved, etc., or have died, leaving eighty-five under care at the close of the year.

The total number of patients under treatment during the year was 195. The highest number at any one time (February, 1876), was ninety-one; the lowest (June, 1876), was seventy-five; and the average number under treatment during the entire year was eighty-two.

The results of treatment for the year ending November 30, 1876, have been as follows:

	Males.	Females.	Total.
Discharged cured	27	19	46
Discharged improved	8	4	12
Discharged unimproved	12	24	36
Escaped	2	....	2
Died	6	8	14
	55	55	110

Of the patients discharged as "cured," sixteen (thirteen males and three females) were residents of the asylum not exceeding three months; twenty-four (thirteen males and eleven females) between three and six months; six (two males and four females) between six months and a year.

Of those discharged as "improved," three (males) had been with us less than three months; two (one male) for about six months; four (three males) for less than a year; and three (one male) for over a year.

Of the "unimproved," all were confessedly "chronic," and, as such, twenty-six of them were transferred from our care either to the

Willard Asylum for chronics, or to the Orange County Chronic Insane Asylum at Goshen.

Six males and eight females have died during the year. Of these, three (one male and two females) were admitted for acute mania; nine (three males and six females) for acute melancholia; two (males) for cerebral paralysis. Of the acute melancholia cases four succumbed to pulmonary disease and one committed suicide.

Of those who died of mania, one was under treatment for seven days, one for a month and one for forty days. Of the melancholia cases, two were here one month, one was ten days, three for five or six weeks, one for three, one for six and one for eight months. The cerebral paralysis cases were under treatment, one for eight days and the other for one and a half months.

The comparative results of treatment for the two years and seven months during which we have been in operation are herewith presented:

	April, 1874, to Nov. 30, 1874.						Totals.
	Males.	Females.	Males.	Females.	Males.	Females.	
Discharged cured......	5	5	15	15	27	19	86
Discharged improved...	..	2	5	10	8	4	29
Discharged unimproved,	..	....	9	4	12	24	49
Discharged not insane..	..	....	1	....	..	....	1
Escaped.............	..	....	..	....	2	....	2
Died................	2	2	8	3	6	8	29
	7	9	38	32	55	55	196

The comparative per centages of treatment (based on the number of admissions) is shown in the subjoined table:

	April to November 30, 1874.			Nov 30, 1874, to Nov. 30, 1875.			November 30, 1875, to November 30, 1876.			Tot'l Period of Two Yrs. and Seven Mos.		
	Admissions.	Discharges.	Per centage.	Admissions.	Discharges.	Per centage.	Admissions.	Discharges.	Per centage.	Total admissions.	Total discharges.	Tot'l per centages.
	69	..	.....	99	..	..	113	..	.....	281	..	......
Cured.......	..	10	14½	..	30	30	...	46	40⅝	...	86	30 4-7
Improved....	..	2	3	..	15	15	...	12	10⅝	...	29	10⅓
Unimproved,	..	..	.....	..	13	13	...	36	31 6-7	...	49	17 1-12
Died.......	..	4	5⅘	..	11	11	...	14	12 2-5	...	29	10⅓

Of the admissions within the past year, fifty-nine were at county charge and fifty-four were private, the two classes, as will be seen from the following table, maintaining about the same relative proportion as in previous years:

	Within the Seven Months ending Nov'r 30, 1874.		Within the Year ending Novemb'r 30, 1875.		Within the Year ending Novemb'r 30, 1876.		Totals.
	Males.	Females.	Males.	Females.	Males.	Females.	
County patients ..	12	10	26	28	32	27	135
Private patients ..	15	32	23	22	21	33	146
	27	42	49	50	53	60	281

Their nativities were as follows:

NATIVITY.	Males.	Females.	Totals.
American	11	10	21
New York State	62	91	153
Maine	3	....	3
Massachusetts	3	3	6
Connecticut	2	4	6
Rhode Island	....	2	2
Michigan	1	....	1
Indiana	....	1	1
New Jersey	4	4	8
Wisconsin	....	1	1
Pennsylvania	2	4	6
Georgia	1	....	1
Florida	1	....	1
Vermont	1	....	1
South Carolina	1	....	1
South America	....	1	1
Canada	....	1	1
England	1	2	3
Scotland	....	1	1
Ireland	32	18	50
Germany	5	8	13
	130	151	281

The county (pauper and indigent) patients have been from :

PLACES FROM.	Within Seven Months ending November 30, 1874.		Within Year ending November 30, 1875.		Within Year ending November 30, 1876.		Totals.
	Males.	Females.	Males.	Females.	Males.	Females.	
Albany, city of	..	....	..	....	1	....	1
Broome county	..	....	..	....	1	1	2
Chenango county	..	....	..	....	1	....	1
Delaware county	..	....	2	....	1	1	4
Dutchess county	..	....	..	....	1	....	1
Erie county	..	....	1	....	..	....	1
Kings county	..	1	..	....	..	1	2
Madison county	..	....	..	....	..	1	1
Newburgh, town of	..	....	..	....	..	1	1
New York county	1	1	1	....	..	....	3
Orange county	5	3	5	9	5	2	29
Otsego county	..	....	..	1	..	....	1
Poughkeepsie, city of	..	....	..	1	..	2	3
Rensselaer county	1	2	1	1	1	....	6
Richmond county	1	....	2	....	3	2	8
Riverhead, town of	..	....	..	....	..	1	1
Rockland county	..	....	..	1	2	2	5
Saratoga county	..	....	1	....	..	1	2
Steuben county	..	1	..	....	..	....	1
Suffolk county	1	....	..	....	1	....	2
Sullivan county	..	....	1	....	4	1	6
Tioga county	..	....	1	....	..	....	1
Ulster county	2	2	11	15	12	9	51
Westchester county	1	....	..	....	..	1	2
	12	10	26	28	33	26	135

The civil condition of our patients is as follows:

SEX.	SEVEN MONTHS ENDING Nov. 30, 1874.			YEAR ENDING Nov. 30, 1875.			YEAR ENDING Nov. 30, 1876.			
	Married.	Single.	Widow'd.	Married.	Single.	Widow'd.	Married.	Single.	Widow'd.	Totals.
Males...........	12	15	..	21	24	4	31	20	2	129
Females........	24	16	2	29	13	7	36	16	8	151
	36	31	2	50	37	11	67	36	10	280
Civil condition not ascertained............................										1
Total										281

The following table exhibits the ages of those admitted and of those discharged recovered, during the year ending November 30, 1876. (See previous reports for similar tables.)

	ADMITTED			DISCHARGED RECOVERED.		
	Males.	Females.	Total.	Males.	Females.	Total.
Between ages of 10 and 20 years.	1	3	..	2	1	3
Between ages of 20 and 30 years.	18	14	..	11	5	16
Between ages of 30 and 40 years.	14	16	..	5	5	10
Between ages of 40 and 50 years.	9	13	..	7	4	11
Between ages of 50 and 60 years.	8	8	..	1	3	4
Between ages of 60 and 70 years.	3	4	..	1	1	2
Over the age of 70 years........	..	2	..	..	....	...
	53	60	113	27	19	46

How long insane before admission :

	1874.		1875.		1876.	
	Males.	Females.	Males.	Females.	Males.	Females.
Twenty-one years	....	....	1	....	....	.....
Sixteen years	....	1	....	....	....	.....
Twelve years	....	....	1	....	....	1
Eleven years	....	1	....	....	....	.....
Ten years	....	....	1	....	....	.....
Nine years	....	....	...	....	....	.....
Eight years	1	....	....	....	....	1
Six years	2	1	....	....	....	1
Five years	1	1	....	2	....	.....
Four years	....	....	1	1	2	.....
Three years	1	....	4	2	1	2
Two and a-half years	2	....	....	2	1	2
Two years	2	4	5	3	2	.....
One and a-half years	1	1	....	1	....	3
One year	....	3	....	1	....	2
Eleven months	....	2	....	....	....	.....
Ten months	....	....	....	1	2	.....
Nine months	1	2	4	....	1	.....
Eight months	....	1	....	2	....	2
Seven months	....	2	....	1	....	.....
Six months	3	1	3	6	1	3
Five months	....	1	2	1	3	2
Four months	....	2	1	5	1	2
Three months	1	5	5	1	1	4
Two and a-half months	....	2	....	1	....	2
Two months	4	3	7	3	3	8
One and a-half months	2	....	3	....	4	5
One month	....	....	....	....	5	8
Three weeks	....	....	....	1	8	4
Two weeks	2	2	4	4	6	7
One week	2	2	3	2	4	3
Less than a week	1	1	1	....	5	.....
Not ascertained	1	3	1	6	3	.....

The educational advantages of these patients had been as follows:

EDUCATED AT	1874.		1875.		1876.		Totals.
	Males.	Females.	Males.	Females.	Males.	Females.	
Common school	11	26	28	26	31	34	156
Academic	3	9	2	6	6	10	36
Collegiate	3	....	5	....	1	....	9
Reads and writes	4	2	4	6	9	9	34
Reads	2	1	..	3	2	2	10
No education	4	3	10	10	4	5	36
	27	42	49	50	53	60	281

Their occupations were:

	MALES.			FEMALES.		
	1874.	1875.	1876.	1874.	1875.	1876.
Army, U. S.	..	1	..	..	..	...
Bookbinder	..	..	2	..	..	1
Book-keeper	1	..	..	..	..	...
Builder	..	1	..	..	..	...
Butcher	..	..	1	..	..	...
Canal boatman	1	1	2	..	..	...
Carpenter	2	1	3	..	..	...
Cement burner	..	..	1	..	..	...
Chairmaker	..	..	..	..	..	1
Clerk	1	4	3	..	..	...
Clerk, bank	..	1	..	..	..	...
Clerk, express	1	..	..	..	..	...
Clerk, post-office	..	..	1	..	..	...
Clergyman	1	2	..	..	..	...
Confectioner	..	..	1	..	..	...
Dressmaker	..	..	..	1	1	1
Farmer	1	13	16	..	..	...
Fisherman	1	..	..	..	..	...
Gardener	..	..	1	..	..	...
Hotel-keeper	..	..	2	..	..	...
House-keeper	..	..	..	23	36	35
Laborer	5	8	5	..	..	...
Lawyer	2	2	..	..	..	...
Machinist	1	1	..	..	..	...
Merchant	1	1	2	..	..	...
Mail agent	..	..	1	..	..	...
Mason and stone-cutter	1	2	1	..	..	...
Miller	..	1	..	..	..	...
Nurse	..	..	..	..	1	...
Oysterman	..	..	1	..	..	...
Painter	..	1	..	..	..	...
Physician	..	..	1	..	..	...
Pilot	..	1	..	..	..	...
Plumber	..	..	1	..	..	...
Printer	2	..	1	..	..	...
Railroad	1	1	..	..	..	...
Seaman	..	3	..	..	..	...
Servant	..	..	..	..	..	2
Speculator	1	..	..	..	..	...
Student	1	2	2	..	1	1
Teacher	..	..	1	2	..	1
Tobacconist	..	..	1	..	..	...
Wagonmaker	1	..	..	..	..	...
No ascertained occupation	2	2	3	16	10	18
	27	49	53	42	50	60

Forms of disease, April 1874, to November 30, 1876:

	Males.			Females.		
	1874.	1875.	1876.	1874.	1875.	1876.
Dementia	1	3	2	2	5	2
Epilepsy	5	5	..	..	1	1
Hysteria	..	..	..	1	4	2
Hypocondria	1	2	..	1	1	2
Mania, acute	7	14	13	6	5	10
Mania, sub-acute	..	4	5	1	3	4
Mania, chronic	3	5	6	6	7	6
Mania, recurrent	1	1	5	3	4	2
Mania, religious	..	1	..	..	..	...
Melancholia	5	8	13	15	17	23
Melancholia, chronic	..	..	..	..	..	2
Melancholia, with stupor	1	..	3	..	..	1
Melancholia, religious	1	2	1	..	..	2
Melancholia, puerperal	..	..	..	..	2	1
Monomania	..	..	1	2	..	...
Paralysis	..	1	1	2	..	...
Paresis	2	2	3	..	..	...
Puerperal mania	..	..	..	3	1	2
Not insane	..	1	..	..	..	...
	27	49	53	42	50	60
Total						281

Deaths during the same period, April 1874, to Nov. 30, 1874:

	Males.			Females.			Total.
	1874.	1875.	1876.	1874.	1875.	1876.	
Acute mania	1	3	1	1	1	3	10
Puerperal mania	..	..	..	1	..	..	1
General paresis	1	1	..	..	..	..	2
Paralysis	..	1	..	..	..	..	1
Paralysis, cerebral	..	..	2	..	..	..	2
Softening of brain	..	..	..	..	1	..	1
Epilepsy	..	2	..	..	..	..	2
Melancholia	..	1	3	..	..	4	8
Suicide (puerperal)	..	..	..	..	1	..	1
Suicide (melancholia)	..	..	..	..	..	1	1
	2	8	6	2	3	8	29

Suicidal and homicidal cases, etc., among admissions of 1874, 1875 and 1876:

	MALES.			FEMALES.		
	1874.	1875.	1876.	1874.	1875.	1876.
Patients who have manifested homicidal tendencies	3	1	..	1	..	2
Patients who have made homicidal attempts	2	..	..	..	..	2
Patients who have manifested suicidal tendencies	6	5	10	10	8	18
Patients who have made suicidal attempts	4	2	6	9	5	12
Suicide committed	..	..	..	..	1	1
Patients having a clearly defined history of hereditary predisposition to insanity	5	16	10	17	16	11
Patients of whom there is strong presumptive proof of hereditary predisposition	..	6	7	5	4	12
Patients addicted to masturbation	6	19	..	1	..	...
Deaf, dumb and insane	1	..	..	..	..	...
Insane and blind	..	1	..	..	..	1

The medical treatment of this asylum still retains the three cardinal features with which we commenced, viz.: (1) An entire avoidance of any of the forms of anodyne, sedative or palliative treatment; (2) a scrupulous adherence to the homœopathic law of treatment; (3) the use of the single remedy in all our prescriptions. The same minute and careful notation of each case, which we commenced with our first patient, is still maintained, although with augmenting difficulty and labor as our numbers increase. This notation embraces not only all that can be gleaned of the history of the case before admission, but a brief and complete daily record of its mental and physical symptoms, the medicine, dilution and form of administration, and of every thing, in fact, which contributes to preserve a perfect picture of the case and its treatment. And we feel that the value of such a record, in the interest not only of humanity and science, but of homœopathy, will more than repay the extra and rapidly increasing labor spent upon it, in addition to our other duties.

Concerning restraint, we remarked in last year's report, that it had "been employed only by direction of the medical officers, and it has been found possible, by means of tact and patience, to restrict its use, even in violent cases, almost to a minimum. In accomplishing this desirable result, we have been largely aided by the intelligence, forbearance and good temper of the attendants. Indeed, the necessity of using restraint seems to depend more upon the character of the attendant than upon that of the patient, and if, in the organization of an asylum, the services of *just the right sort* of attendants could be secured, asylum life might present a different aspect, and far more perfect results." The same remark holds good at the close of the present official year. It is indeed, in the procuring of "just the right sort of attendants" that a great portion of the anxiety of a superintendent's life consists. It requires careful consideration of individual characters, and a delicate comparison of relative qualifications for the duties assigned them; a constant "weeding out" of defective or discordant elements; a strict and impartial enforcement of discipline; a timely word of advice, reproof or approval, as varying circumstances may demand; a constant presentation, by word and example, of the nobler aspect of their very arduous duties; and, withal, great patience and charity in dealing with each one's peculiar idiosyncracies, so as to call out their best efforts, and to preserve the harmony which is so desirable in the workings of such an institution, where calmness and happiness of mind (or the reverse) in officers and attendants, reflect directly upon, and seriously influence the mental condition of those committed to their charge.

And I am happy to be able to say that, in the matter of attendance upon the patients, both the *personnel* and the service of the establishment is satisfactory to a degree never before attained, and which (if seconded by the board, in a fair consideration of the pay-list) I shall unremittingly endeavor to maintain. Upon its maintenance depends the reputation and success of the institution, and, also, the absolute bodily and mental comfort of those committed to our charge by loving and sorrowing friends. I allude to the "pay-list," because of the tendency in all managing boards, in these hard times, and with a large amount of unemployed labor in the market, to deal with this question of wages, simply from its practical standpoint, and without due regard to the peculiar character of service demanded from the attendants of an insane asylum. Yet, the strictest economist, if he has once fully studied the requirements of such service, would willingly assert that experienced, intelligent and conscientious attendants in an insane asylum, should not be paid less than an ignorant servant in a private house. Certainly, no one who has ever had care of an insane friend and relative, and who has been finally obliged, when strength and patience have been exhausted, to shift the intolerable burden into an asylum, will, after such an experience pretend that the duty of a score or more of insane persons is a light one, or that it is either just or economic to pay such attendants poorly. And no one, even the poorest of those who are obliged to trust their loved ones to the keeping of others, would feel satisfied if those to whose immediate care they are committed should have no higher mental or moral gifts than ordinary house servants.

As might be expected from an improvement in the character of our house service, I am able to report, during the past year, a very marked decrease in the amount of restraint which has had to be employed on patients. The three female wards, containing fifty patients, have averaged only five patients restrained daily. In the male department, since its removal to the new building, and averaging thirty patients the year through, the decrease has been marked. During the month of August, 1876, only *five* cases were in restraint, all very violent patients, and in condition which afforded neither sense nor reason to appeal to. Restraint in these cases was absolutely necessary and markedly beneficial. The following month (September) showed only three cases; the record of October presents six cases of restraint; and during November there were five cases only. Without being committed to the English "non-restraint" system, we are striving to reduce the amount of restraint used to a minimum, which shall as nearly approximate that desirable consummation as circumstances shall permit.

Paroles, entitling the patient to enjoy exercise in the open air unattended, and within certain restrictions as to distance, etc., are granted whenever circumstances seem to admit of it, and are very rarely abused. We have now six "full parole" patients in the female, and six in the male departments. There are, also, five females and one male on "limited parole," *i. e.*, allowed to go out without an attendant, but only in company with some other patient, in whose discretion we have confidence.

In this connection I may mention our "discharge paroles." It is well known to every medical superintendent or physician engaged in the care of the insane, that a point is frequently reached in the *recovery* of a patient, at which it becomes a most difficult and delicate question to decide whether the mental equilibrium of the individual is sufficiently restored to permit of a return home. There is, on the one hand, in such cases, a reasonable chance (of which the physician feels bound to avail himself) that the cure will be more speedily completed by a return to old associations and the comforts of home life; and, on the other hand, there is the fear lest a longer detention (from prudential considerations) may tend to discourage and retard (if not, possibly, defeat) the impending cure. When, to these considerations we add the intense homesickness which frequently develops with the return of sanity, the equally strong desire of relatives to have their loved ones restored to them, and the numerous and peculiar domestic and economic reasons which conspire to make such a return to the family circle desirable, it can be easily seen that the question, "is it safe?" for this or that patient to leave our care, is one involving a very close diagnosis, a delicate balancing of probabilities and much anxiety on the part of the medical officers of our asylum.

The question, indeed, was forced upon our attention by the overcrowded condition of the asylum during the first and second years of its existence, which almost defied proper classification, and compelled us to permit of the return of our patients to their homes, at the earliest possible moment in their convalescence. It seemed safer that they should run the possible risk of too early a return to old associations, than to subject them to a continuance of the disturbing and annoying conditions which necessarily surrounded them in the ward, and to which they daily became more susceptible, as convalescence brought with it a clearer consciousness of their surroundings. In this way we came gradually into the habit of granting "discharge paroles," of from one to six months' limit, to such patients as left us with any possibility of being obliged to return to us. The parole was simply a written obligation, signed by the party responsible for the patient, stating that the patient was allowed to return home "on parole" (length of time stated), and on these conditions, viz.: (1) that the patient's mental and physical condition should be honestly reported to us, at stated times, by the friends; (2) that, in case of the return of any unfavorable symptoms within the time specified in the parole, the patient should be promptly returned to our charge, and, in such case, would be received again on the original commitment papers; (3) that, if the patient remained well at the expiration of his parole, he should then be considered fully discharged as "cured." In this manner we have paroled eighteen patients, but a single one of whom has ever been returned to us; and, though we have maintained a correspondence with the relatives of such cases, we have never heard of any lapse from recovery. In several cases the knowledge, on the part of the patient, that his or her friends held such a parole, on which they could at any time be remanded to our custody, seems to have exercised a very decided influence in enabling them to preserve that degree of self-control which at times was necessary, and thus holding themselves in check, they have passed on to perfect recovery.

Without claiming too much, we simply contribute this leaf of our experience toward the solution of a question which has lately excited much discussion among the superintendents of American institutions for the insane, and which is interesting, on curative, humanitarian and economic grounds, to all concerned.

Our diet list has been subjected, during the past year, to a searching revision (originating in economic considerations) by the medical and by a special committee of the board. As revised, it shows (on paper) a saving of ten dollars and twenty cents per week, and has not been materially altered in character. In its final revision it passed under the examination of the State Commissioner in Lunacy, who says of it, in a communication to the board, that "it seems to me to represent the maximum of economy, consistent with a proper scientific provision for the wants of the insane."

The commissioner further remarks, in the same communication: "There is no direction in which economy is so liable to err as in this, and none, therefore, where liberality of provision so abundantly rewards itself, by either limiting the duration of the disease, or disarming it of some of its most expensive consequences. The experiment tried in Massachusetts some years ago, showed that what was saved in cost of food was more then expended in replacing damages done to apartments and replacing clothing destroyed. The physical history of insanity is one, every chapter of which rests upon a foundation of defective nutrition. In so wasting a disease, consequently, we cannot rebuild the shattered nervôus system upon algebraic formula relating to positive qualities of this or that article of food. We must have a margin in favor of liberality, rather than fall a hair's breadth on this side of it, for the mind can only be reached for treatment through the body, and of all agents that prepare the way for the beneficial influences of medical or moral instrumentalities, an abundant dietary of nutritious food stands foremost. There is, in fact, no substitute for it, and daily observation of the proximate causes of insanity convinces me more and more that were our agricultural population not so generally underfed, it would not supply so many victims to the host of the insane."

In regard to the dietary, as it now stands, we may remark that it is not so very abundant as to prevent very frequent calls, on the part of the medical officers, for "extra diet" in various forms needed by special cases.

During the whole of the past, as during a portion of the previous years, our female patients have enjoyed the services of a female medical assistant, who is a student of medicine, and who is detailed to the making of those special examinations, with accompanying treatment, which in ordinary asylum practice it has been found impracticable, for obvious reasons, for the male physicians to make. When made, as they easily can be, by a competently educated woman of tact and kindly address, under the general direction of and advice with the physicians of the staff, the exact condition of the uterine organs (concerned in so many cases of insanity in females) can be readily ascertained, and the results of proper treatment are correspondingly successful and satisfactory. Over a thousand special examinations have been made by this lady (Miss Georgie Horton) during the year, in our female wards, and have contributed very largely to our curative results, as given in these pages.

During the summer months of 1876, we experimented upon some of our cases with the "colored sun-light ray," though in a crude and somewhat imperfect manner, owing in part to a lack of entirely satisfactory facilities, and, in part, to a paucity of information as to what had already been attempted in this direction. During the months of June, July and August, two patients, one a case of acute mania and the other of subacute mania, were submitted for three to four hours a day to the action of the violet light, and one acute mania case and one of melancholia, for the same time, to the blue light. While we are not prepared to say that the color treatment was without effect in some of these cases, yet we do not claim any such marked effects as should warrant us in forming a definite opinion as to its value in the cure of insanity. We shall continue our experiments in the future, hoping for favorable results.

Since my last report we have entered upon the occupation of our new pavilion building. It is 204 feet in length and three stories in hight above the basement, with a wing on the southerly end seventy feet deep, and on the northerly end a wing 100 feet deep, and is built of brick and half-timbered work, so constructed as to give it the appearance of three distinct villas, slightly connected by balconies and glass-covered galleries. Its interior arrangement is pleasant and home like — the home-like, indeed, being a *sine qua non* in the planning of all the buildings of our asylum. Each floor is a duplicate of the others, and a brief description of one will, therefore, suffice. The southerly wing is appropriated to reception-rooms for patients, patients' parlor, dining-rooms, clothes-rooms, stairway, etc. Opening from this wing, and extending through the center of the building, is a fine corridor, 110 feet long and twelve feet wide; on either side of which are patients' bed-rooms, each fourteen by ten and a-half feet, and an associate ward twenty by twenty-one and a-half feet in size. The otherwise monotonous outline of such a hall is, in this case, broken by a charming octagonal room or alcove, at each end of the corridor, and a pleasant bay-window on its front, in the center. Every thing is bright, cheerful and airy. In the further, or northerly wing, is a corridor eighty-five feet long and ten wide, on one side of which are six rooms, nine by twelve, and a dining-room thirteen by fifteen feet, with butler's pantry, etc. On the other side are bath-rooms, water-closets and attendants' rooms. This will be exclusively devoted to excited patients, and is separated by double doors, thick walls, etc., excluding noise from annoying the patients in other portions of the building. At the rear end of this corridor is a fire-proof stairway, from basement to third story, situated conveniently for the escape of patients from one part of the house to another, and for escape in case of fire. As in the main building, the closest attention has been paid to securing proper ventilation, sufficient warmth and light, etc. The building accommodates about 130 patients.

The room thus afforded has largely relieved us from the embarrassment under which we previously labored, as it sets at liberty one more ward for females in the administrative building, and gives us six wards for the classification of our male patients. Still, our classification will not be complete, or satisfactory, until, in due course of time, we have another pavilion on the other side of the administrative building, to which our female patients can be removed, thus leaving the administrative building free for the reception of convalescents who are nearly ready to go home, and for some administrative purposes for which we now lack sufficient accommodation. When that time comes, the three buildings will hold about 300 or 350 patients, beyond which number, no asylum, in my humble opinion, should ever accommodate, *i. e.*, if we really desire good curative results.

The occupation of the new building, somewhat removed from the main edifice as it is, has necessitated a revision and enlargement of much of our previous system of service, which has largely occupied my time and thoughts during the past six months.

In this, as in former years, we have been measurably successful in giving our asylum as much of the family character, and in avoiding as much of the "institution look," as it is possible to attain by constant personal influence and work, and by such comforts, decorations and adornments as we can secure through donations and by individual handiwork. The vast increase of wall space, made by the opening of the new building, has called for equally increased exertions and labors on the part of the ladies of the family, the attendants and the patients themselves. Unfortunately, our little "patients' amusement fund," the nucleus of which was a donation, in 1874, of $257 from the homœopathic physicians of the city of Buffalo, and which — carefully husbanded and expended — has for over two years past done an incalculable amount of good, has lately become exhausted; but we are hoping and laboring to raise another fund, with which to continue to provide many things which are necessary to the patients' comfort and happiness, and for which we must look to the free-will offerings of those who are interested in us and in our work. Owing to the same cause, also, the "weekly dances" which our patients have enjoyed so much, had to be suspended for several months, although we hope soon to be able to resume them.

During the summer and fall of 1876, two new features were introduced into the social life of the asylum. One of these was the "Sabbath evening praise service" or "sing" — a meeting together of all the patients who are able, on Sabbath evenings, in the large reception-room, where an hour and a-half is delightfully spent in singing, with one accord, "Moody and Sankey hymns." The patients are allowed the privilege of calling for such hymns as they wish, and, in some cases, are called upon for the rendition of solo parts. This service has generally been conducted by the assistant physician and his wife, the organ frequently being played by a patient. The entire service partakes of an informal "family" character, and is attended, also, by the officers and their families, and such of the household servants as desire.

The other social feature referred to is the "reception evening," on which, one week, the ladies of the "convalescent ward" invite the gentlemen convalescents over to their ward, and the next week the gentlemen return the compliment. The officers and their families, together with a few of the better-behaved from the other wards, also attend these receptions. The evening is spent socially, with music, games, recitations, etc., closing with the serving of light refreshments. These have proved very entertaining and improving occasions, tending largely to break up the formality of patients' intercourse with each other, and to blend them together as members of one large family. Occasionally, these entertainments have taken the character of a "variety" or theatrical exhibition — (in one of the pleasant octagons of the pavilion, which, by the ingenuity and help of the engineer and carpenter, is turned "for the nonce" into a cozy little theater) — and have developed a surprising amount and versatility of talent both among patients and attendants.

In thus promoting the social enjoyment of our patients, we are not disturbed by fears of injurious results which may happen from the commingling of the two sexes. If, in individual cases, we perceive that an injurious effect is produced, it is easy enough to control or prevent it. But, as a rule, we find the natural intercourse of ordinary social life to be perfectly practicable in asylum life. Compara tively few cases are so destitute of reason as to forget what is due to propriety in the presence of others of the opposite sex; and, even if they are mentally "at war with themselves," so long as they can exert the necessary self-control, it is better that they should enjoy the advantages desirable from such intercourse, rather than be sequestered from it. Within our brief acquaintance, several melancholic cases have certainly owed their awakening and cure to the influences arising from their associations, in walks, dances, on the croquet grounds, or at receptions with those of the other sex.

The long protracted heats of last summer, together with the demands made upon railroads for "Centennial" passenger accommodations, prevented our proposed railway patients' picnic, which was greatly enjoyed during the previous year. Its place, however, was filled to some extent, by our "patients' surprise party," on the 29th of September, 1876. At 4.30 P. M. of that day, three large four-horse wagons, tastefully decorated with flags and crowded with happy patients of both sexes, under charge of the medical superintendent, left the asylum and took the road to Goshen, eight miles distant, which they reached after dark; and, passing through its streets (to the great wonderment of such of its people as met them, and who evidently mistook them for a hilarious reinforcement to a political meeting) reached their destination, a mile beyond, at the capacious country residence of Mr. Joseph Brewster. Here they were quickly made at home by the family, and music, cards, singing and social converse filled the fleeting moments, while in the kitchen busy hands were preparing the warm and wholesome oyster supper, to which, in due time, all were invited. Four tables were successively prepared and cleared of edibles before the hungry crew (their appetites wonderfully sharpened by their long ride) were appeased; and, when the last table was vacated, at 10.30 P. M., it was time to begin the homeward trip. So, loading up again, they bade a cheerful good-bye to their kind host and hostess, and, driving leisurely home in full enjoyment of moonlight and clear pleasant air, reached the asylum at 1.30 A. M., safe and sound. Forty-eight, of whom thirty-eight were patients (one an old man of seventy-two), took part in this excursion, and every one of the party were reported by the assistant physician, after his round the next morning, as feeling "first rate" and "jolly." Nothing happened to mar the enjoyment of the occasion (although several patients were constantly on the alert to escape), and many of them seemed to derive a peculiar satisfaction in the change from their ordinary surroundings to the unaccustomed comforts and novelty of a private residence. One lady said to me, during the evening, and with tears in her eyes, "Doctor, this is the first private house I have been in in seven years — it seems so nice;" and similar expressions of pleasure were heard from several.

The "Christmas tree" of Christmas eve, 1875, was as great a success as its predecessor. It was gotten up under the direction of Mrs. Dr. Stiles, admirably seconded by the household, attendants, etc. To Mrs. P. B. Woodward we are also much indebted for the tasteful renewal, this year, of the beautiful floral decorations which lend their charm to the walls of the officers', the male "convalescent" and "invalid" halls. Other wards have also been very handsomely decorated by the combined labor of attendants and patients.

The purchase of a carriage and horses last spring, has enabled us to furnish frequent rides (averaging three a week) during the summer and fall months to patients. Many of these drives were turned to account by making them half-day picnic excursions, for the purpose of gathering ferns, butter-sweet, autumn leaves, etc., for wall decoration.

We have been under especial obligation, as in former years, to the clergy of Middletown, with their respective choirs, for their regular and delightful assistance, "in fair weather and foul," at our Sabbath chapel exercises; also, to Prof. J. F. Boynton, the celebrated scientist, for two exceedingly interesting exhibitions of stereopticon views and scientific apparatus; to the Middletown Cornet Band for a pleasant summer morning serenade; to the "Hibernicon" vocalists for an impromptu evening entertainment of Irish song and characterization; to many of our fellow-citizens for gifts of plant-slips, flowers, etc., etc. "Thanksgiving day," 1876, was kept up through the two houses in good "New England" style, and wound up with a jolly dance in the evening. Frequent "readings" and "socials" have also been given to small parties of patients, by the medical superintendent and wife in their private parlors, and both Mrs. Stiles and Mrs. Butler have contributed largely to the improvement of patients by frequently driving out with them in their carriages.

We have not secured from patients as much labor as in past years. Having fewer chronic cases, we are deprived of the help which many of this class are able and willing to render, and the labor given by other patients is so irregular and requires so much watching, that it is neither satisfactory nor profitable. Still, all the light labor that can be secured, without compulsion, or without injury to the patient, is made use of in and around the buildings and grounds, carrying, clearing, etc., etc.

In compliance with the provision to that effect, in the amended by-laws,* letter boxes, provided with special locks, the keys to which are in the keeping of the three members of the visiting committee, have been placed upon each patient's hall. Aside from satisfying what may be considered a popular demand for "fair play" for those incarcerated in asylums, these boxes have thus far proved of no use, except to be torn down frequently and kicked about by patients who have various delusions and misconceptions concerning their character, although each box has a printed copy of the by-law, with names of the committee, affixed to it.

Most of our wants, such as that of a post-mortem building, a medical library, a refrigerator store-room, will soon be, in some measure, supplied, when we receive the appropriations made for them which we expect in the coming spring.

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* The visiting committee shall, at the request of any patient, grant such patient a private hearing; and shall see that all the inmates of the asylum have full opportunity to make such requests without interference on the part of any of the officers or attendants, and a copy of this clause be printed and placed where any patient may at all times have access to it, with the names of the visiting committee attached.

I trust, also, that your honorable board will continue to keep before the attention of the Legislature, our other no less pressing necessities, among which I may enumerate the following:

1. A suitably located lodging-house for the accommodation of our domestic help, as recommended in my two previous reports.

2. A small frame dwelling, upon the grounds, for the residence of the engineer and family. The recent disastrous fire in the Eastern (Va.) Lunatic Asylum, shows the necessity of always having the chief engineer, even when "off duty," within call.

3. A supply of approved "fire extinguishers," distributed through the buildings.

4. A better system of communication between the general office and the wards, engine-house, etc., than that which is now afforded by bells and speaking-tubes. The "domestic telegraph" (electric) system seems well adapted to this purpose, and, in case of fire (aside from other considerations of economy and convenience), a connection between our asylum and the telegraph station in the village (a mile distant), would bring the public fire department very promptly to our aid.

5. The continued improvement and ornamentation of the grounds, and the gradual but steady enrichment of our farm, so that it can be made productive.

In conclusion, I beg leave to thank all the officers and employes of the institution for their faithful discharge of duty during the year past, and for the cordial sympathy which they have, one and all, manifested in every good word and work which promised cheer and comfort for the patients.

I remain, respectfully.

HENRY R. STILES, M. D.,
Medical Superintendent.

November 30, 1876.

STATE OF NEW YORK.

No. 26.

IN ASSEMBLY,

January 17, 1877.

ANNUAL REPORT

OF THE TRUSTEES OF THE DE VEAUX COLLEGE FOR ORPHAN AND DESTITUTE CHILDREN.

To the Honorable the Legislature of the State of New York:

The Trustees of the De Veaux College for Orphan and Destitute Children, pursuant to the terms of their charter and of an act of the Legislature of the State of New York, entitled "An act to incorporate the De Veaux College for Orphan and Destitute Children," passed April 15, 1853, make this, their annual report, of the condition and progress of the said institution.

The domain of the institution consists of 330 acres of land, on which the college edifice and other buildings connected therewith, are situated. During the present year the funds of the institution supported twenty foundationers giving to them board, clothing and instruction free of all expense.

The condition of the institution is excellent, and its progress in all branches is satisfactory. The aim of the trustees is to carry out, in all respects, the provisions of the will of the founder of the institution.

By order of the board of trustees.

ROBERT P. WILSON,
Secretary.

Dated BUFFALO, *January* 15, 1877.

STATE OF NEW YORK.

No. 27.

IN ASSEMBLY,

January 17, 1877.

COMMUNICATION

FROM THE REGENTS OF THE UNIVERSITY ON THE SUBJECT OF STRENGTHENING THE POSITION AND EXTENDING THE INFLUENCE OF THE COLLEGES OF THE STATE.

UNIVERSITY OF THE STATE OF NEW YORK,
OFFICE OF THE SECRETARY,
ALBANY, *January* 17, 1877.

To the Hon. GEORGE B. SLOAN, *Speaker of the Assembly:*

SIR. — I have the honor to hand you, for the information of the Legislature, the following proceedings of the Board of Regents at their meeting on the eleventh instant.

Very respectfully,
Your obedient servant.
S. B. WOOLWORTH,
Secretary.

UNIVERSITY OF THE STATE OF NEW YORK,
OFFICE OF THE REGENTS,
ALBANY, *January* 17, 1877.

To the Honorable the Legislature of the State of New York:

The Regents of the University have, on several occasions, had under consideration the importance of devising measures to strengthen the position and enlarge the influence of the colleges of this State. In view of the needed counsel and co-operation of the colleges themselves in any movement which might be inaugurated, a call was issued for a joint meeting of the regents and representatives of the various colleges and universities subject to their visitation, to be held on the twenty-first day of December last. Ten of these institutions were represented at that meeting by their presidents or other officers, and several others by official letters expressing a warm interest in the movement.

After full discussion, in which nearly all present took part, a joint committee of six was appointed, consisting of three college presidents and three regents, to which the chancellor was added, to consider and report, at a future time, upon any practicable methods of accomplishing the main ends in view. Chancellor Haven, of the Syracuse University, was made chairman of the committee, and, as such, drafted their report, which was submitted to the regents at their annual meeting, on the eleventh of January, instant.

The report was considered at some length, and the following resolutions were then unanimously adopted:

On motion of Vice-Chancellor Benedict:

Resolved, That the report submitted by Chancellor Havens be laid on the table for printing and transmission to the several colleges of the State for their consideration, with the request that their views thereon be communicated within a limit of time to be fixed by the Chancellor of the University.

On motion of Regent Curtis:

Resolved, That the thanks of this board be presented to Chancellor Haven for the thoughtful and admirable report prepared and submitted by him in behalf of the joint committee of college officers and regents.

The foregoing action and the annexed copy of the report referred to, are hereby respectfully communicated for the information of the Legislature.

(By order.) S. B. WOOLWORTH,
Secretary.

REPORT.

The undersigned, a committee appointed at a meeting of the Regents of the University of the State of New York and of representatives of the trustees and faculties of the several colleges in the State, held by invitation of the regents, in their office at Albany, December 21, 1876, to consider what measures should be taken to strengthen the position and enlarge the influence of the colleges of the State, and to suggest and petition for such legislation as may be needed to carry out the views that may be agreed upon, have considered the subject and respectfully submit this as their report:

There are in this State, in present active operation, twenty incorporated colleges and universities. The following is a table of these institutions arranged in the order of their incorporation, with some facts of interest pertaining to them, as found in the Annual Report of the Regents for 1875:

College.	Instructors.	Students.
Columbia, New York	11	126
Union College, Schenectady	15	125
Hamilton College	11	152
Hobart College, Geneva	7	34
University of the city of New York	15	122
Madison University	10	106
St. John's College	10	74
University of Rochester	9	173
Elmira Female College	12	44
St. Lawrence University	9	45
Ingham University	12	35
St. Stephen's College	7	46
College of St. Francis Xavier	9	78
Vassar College	34	260
Manhattan College	12	98
Cornell University	50	498
College of the city of New York	33	332
Rutgers Female College	12	36
Wells College	9	52
Syracuse University	10	178

Some of these institutions have other departments or colleges more or less intimately connected with them, and usually reported as a part of the universities, in some instances controlled by the same boards of trustees, and, in other instances, only associated with them.

The Columbia College has a large school of mines and an associated Medical school and Law school; Union University has connected with it the Albany Law school and Albany Medical College; the University of the city of New York has a law department and a medical department, and the Syracuse University has connected with it a medical college and a college of fine arts.

These professional schools are usually supported by the tuition fees of the students. It is with particular reference to the original colleges (colleges of liberal arts) that this report is prepared. All of these institutions are to some extent under the control of the State. All have received something more than mere protection and incorporation. Their lands, and buildings, and property actually used for school purposes are exempt from taxation. They are permitted, within certain limits, to hold property and to make contracts. Some of them have received assistance from the United States, and all can receive books and apparatus from foreign countries free of duty. Some have received money from the State, and all, without exception, have received aid from their friends who have been induced to contribute to these schools by their permanency and safety guaranteed by the State.

When we consider that the State of New York has adopted and, from its earliest history, pursued an active and liberal policy towards colleges, and, in some respects, has provided for a better organization of such institutions than any other State, and when we consider the absolute impartiality with which these privileges have been granted to all religious denominations and other associations that desired them, and when we consider the great number of students that have attended these institutions, some of whom have become among the most eminently useful men and women of the nation, we cannot doubt that every successive Legislature will feel a responsibility for their character, and will cheerfully aid to enable them, as far as possible, to meet the demands of the times. The colleges also should have no disposition to deny or undervalue their obligation to the State.

One of the peculiar privileges and duties of universities is the presentation of appropriate certificates or degrees, so called, to students who complete prescribed courses of study. In most European countries, such diplomas or degrees have a pecuniary value, as they are a prerequisite to certain offices of honor, trust and emolument. In this State this is true to but a limited extent. The degree of doctor of medicine carries with it some legal privileges. Graduates of our colleges also, who have studied in the colleges a certain specified subject are, by a rule of the Court of Appeals, entitled to a credit of one year's preparatory study in examination for admission to the privilege of practice before the courts as attorneys. These are the only legal privileges connected with university degrees in this State. But from a long tradition, and from the usages of the learned professions of law, medicine, theology and teaching, these degrees, in America, as elsewhere, carry with them a great value. They are given in New York by authority of the State. The State may be expected to see that this authority is wisely and justly used.

Moreover, these degrees are, to a certain extent, a passport to the position of teacher. The State should desire to recommend only competent teachers, especially to the schools that are supported by public funds. Wherefore the State should insist that diplomas granted by its own unversities should represent a definite amount of scholarship and character.

All Americans who are interested in education deplore the lack of system in the schools of our country, compared with those of many other more compact, and it may be less liberal nations. We may exult in the very political institutions which lead to this result, and may heartily deprecate that severe control of universities that has secured some advantages in other lands; but this does not prevent us from inquiring whether as favorable, or even better results may not be obtained here, in perfect harmony with our liberal institutions.

Happily for this experiment, New York is the best situated of all these States. With a population of nearly 5,000,000 — a respectable nation of itself—with a large number of colleges that can attract students from abroad as well as from its own territory, and happily, as we think, with no present disposition to enlarge the present number, it also has, what no other State has, a corporate head of these colleges in the "Regents of the University of the State of New York." Not itself a college or a university in the ordinary sense of the word, but a body of men chosen by the Legislature and responsible to the State, impartial, clothed with constitutional, supervisional, legislative and administrative authority over academies and collegiate institutions, by which, rightly exercised, with the co-operation of the Legislature, the colleges, the academies, the board of education, the Superintendent of Public Instruction and the schools under their supervision, a more methodical, free and efficient system of education may be obtained than has ever yet existed in this country.

In endeavoring to bring about such a result it may be safest to "make haste slowly;" but there should not be an unthinking hesitation to try experiments, and to reduce theories that seem to be correct to the test of practice.

At present, New York, perhaps, attracts from other States about as many students as now leave her territory to seek an education elsewhere. It need not be long before there will be few, if any, of the sons and daughters of this Empire State that will travel beyond its boundaries to obtain an academic or professional degree. Nor is it an unworthy ambition to aim at making the universities in New York equal in reputation to any in the world. Before indicating what, in the opinion of your committee, may safely be attempted, it may be well to allude to some opinions more or less prevalent among those who have given special attention to college education in this country.

The amount of property voluntarily contributed to the establishment and endowment of these institutions in America has attracted the admiration of observers at home and abroad, and though some of it may have been contributed for speculative purposes, to enhance the value of surrounding property, and a disproportionately large amount of it may have been expended in showy buildings, yet it is evident that many have contributed from the purest motives, thinking that in no other way could they more effectually make their money promotive of public good. These institutions will undoubtedly abide and increase in power with the advancement of the country.

It is also observable that a very large part of the population avail themselves of the advantages of colleges. It has been estimated that about one in three hundred of all the men in the country have been educated in college. Among these are a large proportion of those most eminent in all the professions, and thousands of our business men. By means of these colleges America has been enabled to produce men eminent in the prosecution of science and art, and not to be entirely out of harmony with the great leading civilized nations, in the authoritative prosecution of original investigation. It has been feared by some that a republic would be indifferent or even hostile to such institutions, but it has been found that a manly, candid presentation of the true claims of colleges to support, awakens a response alike creditable to the people and encouraging to those who entertain the profoundest faith in the safety and rightfulness of freedom. We claim that universities are essential to civilization. We claim, also, that a republic cannot expect to secure the best possible institutions of this kind but by a combination of voluntary efforts with governmental assistance; that if the State attempts to found and support them alone, it will be led into embarrassment, unnecessary expense and evils that will finally become intolerable; and that if the people are compelled to perform this work without the aid of the State, there will be much waste of energy and poor success.

It has been proposed that the nation at large should have one grand university and each state in particular another, perhaps subordinate to it, but when a serious effort is made to reduce any such scheme to practice, insuperable objections arise. What claim would any institution have to the name of a university that should be continually trimming in its views and doctrines to satisfy a State? What patriot would desire that millions of money and hosts of officers should unnecessarily be added to the temptations to corruption already managed with difficulty in a State? Certain institutions are needed of the highest order of their kind, connected with the public schools, to be owned and controlled by the State. But besides these, happy is the community that can secure colleges and universities, in which the thoughts and purposes of different sections of the people can be pressed to the utmost degree without being trammeled by popular clamor or subjected to partisan interference.

Heretofore in this country this work has been attempted by schools almost as various in their professions as the many divisions of the people who live together in harmony as citizens. They have not availed themselves of the principles of union. The most of them have been too feeble to reach any thing like their own ideal. New York alone has a nucleus of organization around which all her colleges can cluster in one vital organism, *e pluribus unum*, each preserving its own individuality; and all gaining something from the combination, and all together presenting in return to the people far greater advantages than could possibly arise from the fusion of all the property of all these colleges into one fund and the attempted creation of a mammoth university in one spot.

This last idea is simply a theory thought out in the closet and impossible in fact, and the attempt to produce it would be only disaster. It is local influences, denominational influences, partisan influences, indeed largely, that have produced these colleges; but each place, denomination, party or association has desired to accomplish the most possible, and all of them, in addition to the special influence each has intended to exert, substantially agree in a common curriculum of general culture. They each attract students in their own localities, and of those agreeing with them in their special character from a greater distance. They all accommodate and educate students more economically than would be possible in a mammoth university. The students are exposed to fewer temptations, and in many of these colleges brought under a far higher and more healthful moral regimen than would be possible in one large common institution. In a word, these institutions have grown up; they have not merely been imagined. They will abide. Were they swept out of existence others of like character would immediately take their place, for they spring from a demand and the nature of the people.

But this does not prevent us from seeing the possibility by a concert of action, of commanding nearly if not quite all of the advantages of the largest universities in the world, together with the advantages of distribution over the State, and an independent, vigorous inculcation of rival opinions, together with the most thorough culture in which all would agree.

Let each college rally its own friends and have its own supporters, as now. Let all agree that degrees shall not be conferred except upon the completion of common courses of study mutually agreed upon; but let the graduates of all these colleges be allowed and encouraged to apply for higher and special degrees to be conferred by the Board of Regents of the University of New York upon such as shall pass an examination under their direction. Let these higher courses of study for which the higher degrees shall be offered by the regents be various in amount and character, to accommodate different tastes and aims.

It would probably result that, under this encouragement, each college would tend to assume, in addition to the common curriculum, eminence for some particular quality. One might present great attractions to students in philosophy, another in art, another in some department of science. Graduates of one college might prefer to study for a second degree at another, and thus a community of interest would arise.

In endeavoring to bring about this improvement we should sedulously guard against that tendency of feeble minds to imitate others rather than to build on our own foundation. We cannot build up German universities in this country without a foundation of German society and law and tradition to build on — and that, of course, we do not desire and could not create even if we desired it. Nor can we hope for a reproduction of English or Scotch universities, were it desirable. But we can build on the foundation already existing in our New York institutions a system second to none — at the same time in homogeneousness and variety, in strength, in prosperity and in excellence of product — if the colleges will unite, and the people will sustain the character they have won by doing more relatively for systematic academic and higher education than any other American State. New York is by far the wealthiest, and one of the oldest States. No particular party or division here claims precedence above another. Whatever peculiar tenets any particular association may profess, if it wishes the incorporation of a college it can be obtained. Each is desirous of a fair field, and no partiality. And a common regard for the richest results of culture and thought will lead all to unite in one common purpose.

For these reasons we respectfully recommend that the Regents of the University of the State of New York be requested to prepare certain prescribed courses of study supplementary to what is required by the colleges in this State for the respective baccalaureate degrees, upon the completion of which and passing an examination according to conditions fixed by the regents, any graduate of any college in this State, having spent at least one year either in post-graduate study in some college under the supervision of the regents, or in teaching, shall be entitled to an appropriate degree, by authority of the regents.

And inasmuch as the appropriate examinations of such candidates would require the employment of competent scholars and considerable expense of travel and stationery and correspondence and printing, and other necessary expenses, and would almost certainly fall into disuse and fail of its great purpose unless properly provided for, we recommend that the Legislature be respectfully and earnestly petitioned to make a grant of of $5,000 to be annually paid to the Regents of the University, to be expended and accounted for by them only in the carrying out of the purposes herein set forth,

All of which is respectfully submitted.

E. O. HAVEN,
Chairman of the Committee of the Colleges.

ANSON J. UPSON,
Chairman of the Regents' Committee.

Albany, N. Y., *January* 11, 1877.

STATE OF NEW YORK.

No. 28.

IN ASSEMBLY,

January 17, 1877.

REMONSTRANCE

OF CERTAIN CITIZENS OF THE STATE OF NEW YORK, AGAINST THE CHANGES WHICH HAVE BEEN, AND ARE BEING MADE, ON THE NEW CAPITOL BUILDING.

ALBANY, N. Y., *December*, 1876.

To the Legislature of the State of New York:

We, the undersigned, citizens of the State of New York, do hereby respectfully remonstrate against the changes which have been, and are being made, on the exterior of the New Capitol building.

There has been a complete departure from the style of architecture of that portion of the building previously executed (about two-thirds in height of the exterior walls). Some portions of the building have been torn down, and to carry out the changed design, other and very considerable portions must also be taken down. These changes appear to your petitioners to be so utterly out of harmony with the work previously executed, that if persevered in, it is believed that the building will be ridiculed by all competent critics. Your petitioners are fully sustained in these opinions by the strong remonstrances submitted to the Legislature, at its last session, by the architects of the New Capitol, by the New York, the Philadelphia, the Chicago, the Cincinnati, the Albany and the Rhode Island Chapters of the American Institute of Architects, and also by the opinions of other well known professional men, the whole of which was duly printed, and are Senate documents Nos. 64, 65 and 66, and are hereto annexed.

The New York Chapter (with which the others coincide), after strongly condemning the change of style, etc., proposed by the new design "most respectfully prays that you will not by causing the construction of this design, establish a great public example which will stand for all ages, in all its grandeur of proportions and magnificence of material, to vitiate the public taste by its extreme incongruities of form and ornamentation."

"It considers itself justified in demanding that the greatest public work in our great State, which will be doubtless accepted as a lasting type of the architectural knowledge and skill of our generation, shall be free from the unpardonable and obvious faults which characterize this design;" and further says, "it can safely assure you that any attempt to change the style of the partially constructed building from renaissance to romanesque or gothic, retaining the present work, must inevitably result in as disastrous a failure as is promised by the present design."

The undersigned, fully coinciding with the opinions expressed in these remonstrances, do hereby petition the Legislature to cause the work now executed, varying from the original design, to be removed and reconstructed in accordance with the original plan.

Respectfully submitted.

Walter Dickson, Architect.
Charles C. Nichols, Architect.
John B. Halcott, Architect.
Fred. W. Brown, Architect.
Edw'd Ogden, Architect.
Frank P. Wright, Architect.
Wm. M. Woollett, Architect.
Robert Lenox Banks.
E. P. Treadwell, Architect.
John Cornelius, Architect.
Wm. C. Doane, Bp. of Albany.
Selden E. Marvin, Albany.
Erastus Corning.
A. Van Vechten.
O. Meads.
Amasa J. Parker.
Amasa J. Parker, Jr.
Thomas Hun.
Edward R. Hun.
Marcus T. Hun.
Leonard G. Hun.
H. H. Martin.
I. M. Batterman,
Frank Chamberlain.
W. C. Appleton.
Thos. McCredie.
D. N. Glazier.
Wm. Lacy.
J. N. Ring.
James Hyde Pratt.
H. Pumpelly.
James D. Wasson.
Jno. W. McHarg.
N. S. Wendell.
J. W. Tillinghast.
W. W. Newcomb.
E. M. Carpenter.
A. C. Judson.
J. M. Bailey.
W. S. Church.
B. P. Learned.
Jas. C. Cook.
Theo. F. Van Heusen.
C. P. Williams.
A. Van Allen.
A. P. Stevens.
William Pruyn.
Dudley Olcott.
Rufus H. King.
J. H. Van Antwerp.
John J. Olcott.
J. Howard King.
Maurice E. Viele.
Jno. Templeton.
Sylvanus Birch.
W. F. Hurcomb.
And many others.

IN SENATE, *March* 31, 1876.

Remonstrance of the New York Chapter of the American Institute of Architects, against the proposed changes in the plans for the building of the New Capitol.

NEW YORK CHAPTER OF AMERICAN INSTITUTE OF ARCHITECTS,
128 BROADWAY, CORNER CEDAR STREET, N. Y.,
29th March, 1876.

To the Senate of the State of New York:

The New York Chapter of the American Institute of Architects has examined deliberately and with care the heliotype (*i. e.*, literal) copies of the designs of Messrs. Olmsted, Eidlitz and Richardson, "the advisory board" appointed by "the New Capitol Commission" for the completion of the State Capitol building, published in the "American Architect and Building News" of March eleventh, which design is reported as approved by the commission and recommended for adoption. The report of the advisory board has been also carefully considered.

The chapter finds that the projected work is designed in direct antagonism to the received rules of art. It finds that Italian renaissance under-stories are surmounted by other absolutely inharmonious romanesque stories; that no successful attempt has been made to avoid the abrupt transition from one style to the other; that the axes of windows have been totally disregarded; a feature the preservation of which is indispensable to renaissance work of importance; that the whole is surmounted by roof towers and a dome of discordant character, renaissance in form, gothic in treatment; that it is proposed to introduce brilliant color in the façades and roofs, which is not only utterly out of keeping with the work already done, but which will be destructive of the repose and dignity of a structure of this class and material; and that the new work is extravagantly rich and expensive in parts, while in others it is meager to baldness.

This society respectfully directs your attention to the fact that while elaborately prepared architectural drawings, particularly for works of great magnitude, rarely fail to secure the commendation of those who are not experts, when put to the crucial test of actual construction, if not in accord with the axioms of design derived from the accumulated experience of centuries, they are equally repugnant to the natural taste of the public and to the cultivated taste of the artist.

The members of this society are severally votaries of all recognized styles and schools, and it considers it its duty to assure you (as it does by a unanimous vote) that this design is false in principle, an agglomeration of incongruous forms; that its details are inharmonious, and that the result must be bad; also, that if the design be carried out, these facts will be as obvious to the educated public as they are now to your petitioners.

The primary object of the American Institute of Architects is to foster the growth of architecture as a fine art in this country, and its

New York Chapter most respectfully prays that you will not, by causing the construction of this design, establish a great public example which will stand for ages, in all its grandeur of proportion and magnificence of material, to vitiate public taste by its extreme incongruities of form and ornamentation.

Your petitioner, the New York Chapter of the American Institute of Architects, is the representative of the great mass of the cultivated architects of the State, and, together with its sister chapter in Albany, is their sole organized representative, and it considers itself justified in demanding that the greatest public work in our great State, which will doubtless be accepted as a lasting type of the architectural knowledge and skill of our generation, shall be free from the unpardonable and obvious faults which characterize this design.

This society has neither the intention of indorsing as a whole, the old design for the building, nor of expressing an opinion as to the merits of the new design *per se* (*i. e.*, from above the point to which the work is now constructed), but it can safely assure you that any attempt to change the style of the partially constructed building from renaissance to romanesque or gothic, retaining the present work, must inevitably result in as disastrous a failure as is promised by the present design.

Therefore, the New York Chapter of the American Institute of Architects, in the general interests of the public, and of its art education, as well as of the profession which it represents, feels itself called upon to urge you to sanction no design for the completion of the Capitol building which is not harmonious in character and style with the work already executed; or if the existing work is so faulty in construction or so bad in design that it is, in your opinion, impossible to complete the structure in harmony with it, so as to make a good and suitable Capitol building, this chapter submits that the common interests of the public and of the art of architecture demand that the façades should be removed and sold, and that the work should be commenced anew.

And your petitioners will ever pray.

R. M. HUNT (*per* A. J. B.), *President.*
A. J. BLOOR, *Secretary,*
New York Chapter American Institute of Architects.

IN SENATE, *April* 3, 1876.

Remonstrance of Thomas Fuller and others, Architects, against the proposed changes in the plans for the building of the New Capitol.

To the Senate of the State of New York:

In addition to the remonstrance submitted on March 31, 1876, I beg respectfully to add the following remarks and opinions of other architects.

In 1873 the trustees of the American Institute of Architects addressed the following letter to the New Capitol Commissioners:

AMERICAN INSTITUTE OF ARCHITECTS,
CARL PFEIFER, SECRETARY, OFFICE 113 BROADWAY.
NEW YORK, *February* 13, 1873.

HON. HAMILTON HARRIS, *Chairman New Capitol Commissioners:*

DEAR SIR. — The undersigned, board of trustees of the American Institute of Architects, has been placed in official relations with General Van Buren, United States Commissioner-General to Vienna, with a view of having the architecture of this country creditably represented at the Exposition.

Our board is in communication with the architects throughout the country, with a view of the collection of illustrations of the best works for this purpose, and are in expectation of exhibiting, among other objects, models of the national Capitol at Washington and the municipal buildings at Philadelphia, *and they feel that the architecture of the Empire State could not be more appropriately represented than by the model of the State Capitol designed by Mr. Fuller, now on exhibition in the city of Albany*, and would respectfully request that it be intrusted, for the purpose indicated, to the architectural commission, who, on the nomination of the institute, will be appointed by the Commissioner General to go to Vienna in charge of the architectural objects to be exhibited.

Very respectfully,
Your obedient servants.

(Signed) R. G. HATFIELD.
HENRY DUDLEY.
A. J. BLOOR.
RICHARD M. HUNT.
CHAS. C. HAIGHT.

CARL PFEIFFER,
Secretary A. I. A.

Mr. F. W. Vogdes, architect of the Kentucky State Capitol at Louisville, writes as follows:.

LOUISVILLE, Ky., *March* 24, 1876.

THOMAS FULLER, Esq., *Architect of New York State Capitol:*

DEAR SIR. — Accept my thanks for the paper just received containing your remarks and criticisms on the "amended design," as suggested by the advisory board, and I earnestly hope that the changes proposed will never be made. It occurred to me, the first time that I saw the views published in the American Architect, that there should be some organized efforts made by the architects of the United States, to resist all such attempts to cater to public whims, and crude notions of taste; and especially to prevent the engrafting of such a horrid night-mare upon your beautiful design. I have always considered your design the most carefully studied, and tastefully carried out, of any American building, and do not agree, even with you, that any omission of the small towers above the roof, and the upper orders of the porticos, would improve the general effect in the least.

Hoping that all attempts to change your designs may be fruitless, and that you may be enabled to complete the building in its original beautiful form and proportions, I remain yours, truly.

(Signed) FRANK W. VOGDES.

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40 WATER STREET, BOSTON, *March* 27, 1876.

THOS. FULLER, Esq., *Architect New State Capitol, Albany, N. Y.:*

DEAR SIR. — I had read with interest the published reports, etc., in the American Architect and Building News, and examined the drawings of the advisory board concerning the Capitol building. This morning, receiving your remarkably temperate (under the circumstances) letter to the chairman of the commissioners, dated March twentieth, I determined to write you this note, believing it will, at least, add some to the volume of communications which you must receive to fortify your position.

I believe the execution of the design of the advisory board would produce an anomaly only possible where the densest ignorance prevails. It seems, judging from the drawings and report, that the matter has been far from judicially treated. However clever the modified parts of the design may appear, they are so utterly at variance with the executed portion of the building as to convince the critic that the good of a great work was not considered so much as a violent departure from the original design. A design consistent throughout in either of the styles suggested — renaissance or German gothic — would be well enough, but this mixture would be detestable, and, if executed, must hand down to posterity the most remarkable monument of architectural ignorance or conceit our country has seen.

It would seem that the advisory board must have known the course which public works take, that your propositions must have been discussed, perhaps changed, but in any event finally adopted, so that at least it is not merely the architect's work, but that of his official superiors also. It is therefore ungenerous to single out the architect for adverse criticism, particularly when the board is of our own profession.

Sincerely hoping that you will be able to execute your work in harmony with what has been done already, and believing that what I have written is the general feeling of architects,

I am very truly,

(Signed) SAMUEL J. F. THAYER.

NO. 29 PEMBERTON SQ., BOSTON, *March* 28, 1876.

THOMAS FULLER, Esq., *Architect:*

DEAR SIR. — Mr. Bryant has shown me your letter to the New Capitol Commissioners of the State of New York. I entirely agree with what Messrs. Hunt, etc., and Upjohn say in their letters to you, and write to enter my protest against all such proceedings as this unwise interference on the part of the commissioners with their architect.

Yours respectfully,
(Signed) E. C. CABOT.

Mr. J. C. Cochrane, architect, of Chicago, in a letter dated March twenty-seventh, states:

"It is a delicate matter to alter or change a design of so important a structure at this state of the proceedings, and all good citizens, no matter what their prejudices may be, should touch this matter lightly; for if not, a great mistake is likely to be made that generations to come cannot correct. I do not believe the sensible people of the State of New York will ever consent to ruin this beautiful State Capitol building by adopting such a monstrosity as the design proposed by the 'advisory board.' I am sure I should regret such an act, for I have, in general, with others of our profession, a great pride in our public buildings, for they are only a type of our advancement. The design adopted from which the model is projected is very grand.

"I do not say that a Moorish design cannot be made beautiful, but to adopt that for topping out the New York State Capitol would be a crime of great magnitude. Having been so extensively engaged in the building of public edifices of this kind, I may be pardoned perhaps for such positive expressions."

Mr. John A. Fox, architect, of Boston, in a letter March 31, 1876, says: "The letter published in the Architect, of March twenty-fifth, was not intended to reflect in any way on your design, or to indorse that of the committee, but simply to hold up the system of 'architectural competition' to ridicule.

"My knowledge of the merits of the controversy is somewhat superficial, being derived entirely from the published documents; but I have no hesitation in saying that I decidedly prefer the original scheme to the mongrel substitute."

Mr. G. F. Bryant, architect, of Boston, writes to the following effect:

"It seems to me that so inappropriate a design as the 'advisory board' have proposed for finishing the exterior of the New Capitol, will never, under any circumstances, receive the slightest encouragement from those in authority, it being nothing more or less than placing a Gothic structure upon an unfinished renaissance edifice, an absurdity so glaring as to require no criticism."

In 1870, my partner, Mr. Laver, having to visit England, was especially requested by the New Capitol Commissioners to obtain, if possible, criticisms on the design adopted, from the leading architects there and in Paris; without exception they declined venturing to do so, but all expressed admiration and approval.

Mr. G. G. Scott (now Sir G. G. Scott), then stated that the design was a "masterly architectural composition."

In 1871, the president of the Royal Institute of Architects, Mr. T. H. Wyatt, in a letter to me upon other business, concludes with a reference to the Capitol, as follows: "I congratulate you on your design and on your having charge of so grand and important a work. I trust you may be spared to see its completion, as Sir Christopher Wren was St. Paul's."

Very respectfully submitted.

THOMAS FULLER,
Architect.

IN SENATE, *March* 31, 1876.

Remonstrance of Thomas Fuller, Architect, against the proposed changes in the plans for the building of the New Capitol.

March 30, 1876.

To the Senate of the State of New York:

The New Capitol Commissioners having submitted to the Senate the report of Messrs. Olmstead, Eidlitz and Richardson, touching plans and estimates for the building of the new Capitol, at Albany, I beg respectfully to submit my reply thereto.

THOMAS FULLER,
Architect.

ALBANY, N. Y., *March* 20, 1876.

To the Hon. WM. DORSHEIMER, *Lieutenant-Governor,*
Chairman of the New Capitol Commissioners:

SIR. — Your communication of the eleventh instant, stating that "the commissioners will be glad to receive from you arguments or reasons for or against the proposed changes," etc., was received late in the evening of that day. I beg, therefore, respectfully to offer the following remarks:

The first plans were approved by the Capitol Commissioners and the Commissioners of the Land Office on the 13th November, 1867, and on the seventh December by the Governor; in the plans, the size and position of the legislative chamber, the main tower and the central court were determined.

The Legislature of 1868 appointed an additional number of commissioners, with the understanding that the plans should be revised, particularly with a view to an increase in the hight of the elevation, a different treatment of the roofs and increased hight and projection of the porticos. Many studies were made, and finally in July, 1869, the present elevations were approved to the height of the roofs and the preparation of the detail plans commenced.

A committee was then appointed to revise the interior arrangements, and the members of the committee personally ascertained from the various departments the accommodation required, both as regards the number and area of the rooms, which did not vary much from the suggestions to architects issued in July, 1866.

In the year 1871 another change was made in the composition of the commission, but no further modification suggested.

These plans have been before each successive Legislature, and have been published in most of the leading illustrated journals in this country and in Europe, and until now have never been criticised unfavorably.

At the first interview at my office with the members of the "advisory board" and yourself, on July seventeenth last, I was informed that the subjects to which particular attention was to be drawn were:

First. That the legislative chambers were considered to have too large a floor area, and to be higher than recent experiments at Washington had shown to be safe acoustically, it being there demonstrated that thirty-two feet was the extreme, and that it was advisable to so alter the forms of the chambers as to allow free access between the east and west ends of the building on the gallery floor without passing through either chamber, and that a center entrance on the floor of the chambers would be necessary.

Second. That the Court of Appeals was too large, and also the rooms appropriated for the Governor, and that separate provision for the law library was not requisite, as it might be placed in the State Library.

Third. That the building would be too high.

Fourth. That the small towers on the east and west fronts were not required.

At that meeting the plans for the floor containing the legislative halls were approved conditionally, and I expressed my readiness to make any changes that might be determined on. From that date to the second September I did not receive any further communication, and, of course, delayed the completion of the detail plans and specifications, as required by law, until some decision had been arrived at.

At the meeting on September second the plans were reindorsed as approved, without any condition, and I was informed that the board had passed a resolution requiring the architect to complete, with as little delay as possible, the detail plans and specifications for finishing the entire building. In reply to my inquiry as to what changes were proposed, I was then informed they had not been determined, and that I had better complete the plans as originally intended.

I consider that any change that may now be deemed advisable should be carried out strictly in harmony with the building as already erected, and I cannot see any difficulty in so doing.

The style adopted for the modifications proposed, and shown by the plans prepared by the "advisory board," and submitted to the commission this month, is entirely at variance with the plans heretofore adopted, and with that portion of the building already built, and, to be thus grafted on a building so far advanced, would present a most unsightly appearance. The style of these proposed modifications, with its elaborate surface and carved ornamentation, is not applicable to granite, and should only be used on a more free-cutting stone, or in terra-cotta; and such decoration, together with the use of polished panels and colored tiles of various shapes and tints, laid in various patterns (however pleasing on small churches, schools or rustic dwellings), in no manner is expressive of the purpose for which this building is intended.

The omission of the small towers above the roofs on the east and west fronts, and also of the upper stories of the porticos on all the fronts, might give greater breadth of effect, but, to carry out the treatment as shown on these modified plans, it would be necessary, not only to take down all the work already built above the level of the springing of the arches of the windows on the principal floor, but also the center portions of the east and west fronts for eighty feet in length on each, to twelve feet below the springing of the arches and the twelve angles of the corner pavilions; and the four towers on the north and south fronts must also be taken down to the same level, and the greater portion of the stone now cut and ready for setting must be abandoned or recut at a very considerable cost.

The corner pavilions, as shown by the plans submitted by the "advisory board," have been increased in height about as follows: From the ground floor to the top of the cornice is 120 feet, and to tops of the roofs 171 feet. In the plans, as heretofore approved, the height from the ground floor to the top of the stonework is 101 feet ten inches, and to the top of the roofs 139 feet four inches. On the north and south fronts the height from the ground floor to the top of the cornice, according to the plans prepared by the "advisory board" is 102 feet, and to the top of the roofs 135 feet; and in the plans heretofore adopted the walls are about the same height, but to the top of the roof is only 122 feet.

The alteration in the forms of the roofs does not, in any way, increase the facilities for carrying off the water; and where the roofs are dropped on the north and south fronts, it is extremely objectionable as affording a large space for the lodgment of snow — that is, as shown on the drawings, which, I am informed, are not correct in this respect.

As regards the alteration, in form and position, of the Senate and Assembly chambers, it was always considered advisable to have the windows opening on the floor, if possible; but the provision of a corridor for communication between the east and west ends of the building, without interfering with the chambers, was considered of more importance, as these chambers could be lighted quite as effectively from the ceiling. If that direct communication is not now considered necessary the legislative chambers might, of course, be arranged accordingly, but should be treated in strict accordance with the style of the building.

By the arrangement shown on the plans of the advisory board the ceilings are to be arched with stone ribs and brick supported on four massive stone columns. If groined, as shown, the vaulting will be in the form of a cross. the apex of the vault about fifty feet from the floor. It is believed this ceiling would be unfavorable, as far as the acoustic properties of the room are concerned, much more so than a horizontal deeply paneled ceiling constructed of iron and glass, and the opportunities for perfect ventilation (one of the great aids of acoustics) not by any means as certain.

The proposed floor area of the chamber is greater than in the plans heretofore approved, and the proposition to enter upon the highest level would involve the necessity of taking down the groined brick arches and removing the adjoining floors and lowering the same, whilst the effect of descending into the chambers, as it were, into the pit of a theater, would not be imposing.

In July last it was suggested that instead of the two side entrances to the chambers one center entrance should be provided, and with that I entirely agreed; but, the plans having been approved, and as the alteration did not affect construction, I did not embody it in the detail plans as finished.

I consider the treatment of the main tower exceedingly unfortunate and out of all character with the building; the elaborate decoration both of the interior and exterior, with the pinnacles at the angles constructed of detached columns and pierced tracery-work of gothic form, are extremely out of place. The modified plans, not being perfected, or not all exhibited, do not show any means of reaching the upper stage of the tower, but I am informed that the fourth pinnacle, not seen in any of these drawings, is intended to be of different construction, and is to contain the staircase, and, consequently, must be carried up much higher than either of the others.

All the elaborate decoration of the interior and exterior of the tower appears to be useless expenditure of money, and would be entirely ineffective at such a height.

The plans do not show any provision for sashes in the tower opening. In such a position, so exposed to storms from every direction, this seems to be very wise.

The exterior stairs and terraces, as shown and explained to me, for they are not perfect on the modified plans, are, in my opinion, likely to very materially detract from the appearance of the building, and projecting, as it is proposed, about 170 feet from the east front, would, on the approach from State street, effectually hide a great portion of the façade. But before this feature is finally decided, it would be advisable to wait until the building is further advanced, when more correct judgment might then be arrived at. I would remark that the plan of these terraces, etc., as proposed by the "advisory board," would be much more costly than some such arrangement as shown on the model.

In support of my opinion, thus briefly expressed, the following is a copy of a letter received from Mr. R. M. Hunt, Mr. H. Dudley and Mr. D. Lienau, well known architects of high repute in New York:

NEW YORK, *March* 14, 1876.

THOMAS FULLER, Esq., *Architect of the State Capitol at Albany:*

DEAR SIR.—In accordance with your request we, the undersigned, have carefully considered the proposed alterations suggested for the completion of the State Capitol, as published in the American Architect and Building News, March, 11, 1876, and we are unanimous in the opinion that the suggested alterations are no improvement on the original design, and, furthermore, that the style adopted is totally at variance with the portions of the building already erected.

The proposed changes for the Assembly chamber we consider defective, inasmuch as thereby all communication between the east and west ends of the building is sacrificed on that side for no commensurate gain.

Furthermore, we consider that the arrangement of terraces and approaches, as shown by the model, is decidedly preferable to that suggested, not only as regards the building, but also the surroundings. It is unnecessary for us to offer any suggestions concerning minor points, such as the light in the corridor, the various materials to be used, etc., as undoubtedly they can all be satisfactorily arranged.

Truly yours,

(Signed) R. M. HUNT,
HENRY DUDLEY,
D. LINEAU.

Mr. R. M. Upjohn, architect of New York, also writes: "I cannot imagine any thing which could have been done more favorable to your design for the Capitol at Albany than the publication of the designs made by the 'advisory architects.' I can hardly believe my eyes that any architect could recommend engrafting another style to a building so far advanced as yours has been," and such opinion is, I believe, that of a very large majority of the leading members of the profession.

The report of the "advisory board" enters into very minute details of construction, to reply to each would be to occupy much time, and, as I suppose, needlessly, because, should more costly enrichment or materials be deemed requisite at any time during the progress of the work, it can always be substituted by concurrent resolution of the board.

The Legislature of last year appeared to be of opinion that iron and brick for the interior ought, in most cases, to have been used instead of stone, and I was especially cautioned by the Senate committee, in the preparation of the detail plans for the completion, not to propose any unnecessary expense.

I have no hesitation in stating that the cost of the building, if completed in strict accordance with the modified plans prepared by the "advisory board," would be considerably increased.

As regards the use of slate instead of copper, my experience has proven the latter to be by far the best. The cornices referred to as imitation of stone, would not so appear unless painted for that effect. The tread of the various steps, etc., are matters of opinion. I have adopted that which I believe to be the safest and most convenient. The substitution of sand-stone for granite in this construction, is not a matter of moment.

As regards the use of Parian cement in place of sand-stone or marble for architraves, skirtings, etc., I would only remark that the use of cement for such purposes is equally as appropriate as that of marble or other stone, unless the latter forms part of the real construction, which is impossible, the interior walls being now built of brick, the marble or sand-stone would therefore have to be in thin slabs secured to the walls by clamps, screws and plaster. The cement is capable of receiving finer finish and more delicately wrought mouldings, and is not so easily injured.

As regards the failure of the brick arches over the corridor adjoining the Court of Appeals, I cannot accept the reported cause. These arches were constructed very late in the season and during the prevalence of storms, and before the mortar was properly set severe frosts occurred. By mistake of the foreman, and contrary to the orders of the superintendent, the centers were struck immediately, but it was not until the thaw in the spring that the fault was discovered. It was then found that the frost entering into the concrete over the haunches of the arches had thrown the adjoining wall about three-quarters of an inch out of plumb, consequently the center of the arch dropped, and it now appears crippled and must, of course, be reconstructed. The cost of doing so will not exceed $250. The arches over the hall below are much more than sufficient to sustain the weight which will be placed on them.

The iron columns in the Court of Appeals were placed to reduce the bearing of the iron girders, and thereby avoid deflection which, however slight, would ruin the appearance of the ceiling, and also to improve the proportions of the rooms. But if the Court of Appeals is too large there cannot be any objection to removing the columns and erecting a wall in their place; and the room may be still further reduced, in the manner suggested by you at the last meeting, and additional rooms thereby obtained for the judges.

It is recommended by the "advisory board" "that all windows be divided by a stone transom, and that those of the principal and gallery stories be further divided by stone mullions." A general complaint is previously made that the committee rooms, etc., are deficient in light. It seems doubtful if the insertion of stone transoms and mullions will obviate that objection; and, further, the mullions would form no part of the construction and would have to be held in place by dowels, cramps, etc. And as regards the "use of iron sashes revolving on central pivots" instead of wooden sliding sashes, I consider the latter far better and less liable to get out of order.

In the ceilings of the porticos I should prefer using stone in place of iron, etc., for bearers, but the granite has often dry seams and is liable to be shaken in quarrying. I consider, therefore, that there would be a risk in trusting to it for a span as great as twenty-two feet. All the roofs have proper bearings on the main walls.

I have endeavored, in the foregoing remarks, to be as brief as possible, and do not consider it necessary to enter at present into further detail.

In conclusion, I cannot but express my surprise that the report of the "advisory board" should place upon me the entire responsibility of the adoption of the central court, the position of the main tower, legislative halls, the size of the rooms, etc., whereas they were called for by those in authority, and I thought that at the first interview with the gentlemen it had been explained to their satisfaction.

I am, sir,
Yours very respectfully.
THOMAS FULLER.

ANNUAL REPORT

OF THE

SUPERINTENDENT

OF THE

ONONDAGA SALT SPRINGS

OF THE

STATE OF NEW YORK.

TRANSMITTED TO THE LEGISLATURE JANUARY 19, 1877

JEROME B. PARMENTER, STATE PRINTER.
1877.

STATE OF NEW YORK.

No. 29.

IN ASSEMBLY,

January 19, 1877.

ANNUAL REPORT

OF THE

SUPERINTENDENT OF THE ONONDAGA SALT SPRINGS.

Superintendent's Office,
Syracuse, *January* 15, 1877.

To the Hon. George B. Sloan, *Speaker of the Assembly:*

Sir.— I have the honor herewith to transmit to the Legislature my annual report, as superintendent of the Onondaga salt springs, exhibiting the state of the manufacture of salt and the condition of the works.

Very respectfully submitted.

A. C. POWELL,
Superintendent.

REPORT.

Pursuant to the requirements of the statute (chapter 346 of Session Laws of 1859) respecting the salt springs and the manufacture of salt, the undersigned, superintendent of the Onondaga salt springs, submits to the Legislature the following report:

INSPECTION OF SALT.

The whole amount of salt inspected on the Onondaga salt springs reservation, in and near the city of Syracuse, during the year 1876, is 5,392,677 bushels of 56 pounds each.

Of this quantity 3,083,998 bushels have been produced in the fine salt works by artificial heat, and 2,308,679 bushels in the coarse salt works by solar evaporation. The inspection in the several districts into which the reservation is partitioned has been as follows:

DISTRICT No. 1.— SYRACUSE.

Fine salt	457,462	
Solar salt	220,299	
Solar ground	384,307	
Fine ground	2,978	
		1,065,046

DISTRICT No. 2.— SALINA.

Fine salt	1,684,915	
Solar salt	323,859	
Solar ground	77,860	
		2,086,634

DISTRICT No. 3.— LIVERPOOL.

Fine salt	315,773	
Solar salt	158,568	
Solar ground	396,154	
		870,495

DISTRICT No. 4.— GEDDES.

Fine salt	278,611	
Solar salt	651,115	
Solar ground	96,517	
Fine ground	344,259	
		1,370,502

Total inspection in bushels	5,392,677

The revenues collected by the superintendent during the year are as follows:

Duties on 5,392,677 bushels of salt at one cent per bushel	$53,926 77
Received for rents and penalties	67 00
Add for fractional weight	30
	$53,994 07

In pursuance of instructions received from the Canal Board, the revenue collected has been deposited to the credit of the State Treasurer as follows:

Salt Springs National Bank	$27,023 06
Syracuse National Bank of Syracuse	26,971 01
Total	$53,994 07

There has been drawn from the treasury during the same period, for the support of salt springs proper, the sum of $49,122.99, all of which has been disbursed as follows:

For salaries of officers	$21,275 04
For new structures, repairs, materials, labor, etc.	27,847 95
	$49,122 99

The following statement, in detail, approximates as near as may be to the different objects of expenditure, the original vouchers for which have, from time to time, been forwarded to the Comptroller, and copies of the same filed for reference in the office of the superintendent at Syracuse:

AT SYRACUSE — FIRST DISTRICT.

Salaries of officers, including chiefs of departments	$8,670 00
Labor and teaming	5,655 88
Repairs of pumps and new machinery	5,015 68
Drawing tubes and resinking the same in De Wolf group	1,477 02
Coal for steam engines	1,618 80
New well-houses at De Wolf group	400 00
Moving drill-houses	232 04
Two new boilers for De Wolf group (including chimney)	2,132 32
Belts and pulleys for engine-houses	516 91
New chimney for Syracuse group	313 28

Paid, as per contract, for pumping Dix and Griswold wells	$1,198 00
Salt for Onondaga Indians	63 00
Miscellaneous	2,984 20
	$30,277 13

AT SALINA — SECOND DISTRICT.

Salaries of officers	$6,710 00
Labor and teaming	3,809 09
New conduits	556 30
One new bulk-head at Salina pump-house	134 49
Cleaning salt wells	632 50
Miscellaneous	328 76
	$12,171 14

AT LIVERPOOL — THIRD DISTRICT.

Salaries of officers	$2,275 04
Labor and teaming	102 75
Miscellaneous	118 06
	$2,495 85

AT GEDDES — FOURTH DISTRICT.

Salaries of officers	$3,620 00
Labor and teaming	431 23
Miscellaneous	127 64
	$4,178 87
Total expenditures	$49,122 99

In addition to the above there has been an expenditure of $12,520.11 made under authority of chapter 193, Session Laws of 1876, passed for the special purpose of bringing into use new salt wells, and the construction of a new water wheel at the Syracuse pump house.

The statute requires of the superintendent to refer specifically in his annual report to the interests committed to his charge under the following divisions: First, "the state of the manufacture of salt;" second, "the situation of the public works;" third, "to recommend such further provisions and improvements to aid in the manufacture as, in his opinion, may be deemed advisable." Following these subjects in their order the first topic that presents itself is

"THE STATE OF THE MANUFACTURE OF SALT."

The business of manufacturing salt for the past season has been one of great embarrassment, owing to the general depression of business throughout the country, and the consequent low prices afforded for the manufactured article; a result always incident to any market where the supply is largely in excess of the demand.

Another and, perhaps, more serious embarrassment grew out of the fact that a very large supply of salt has been furnished at the Saginaw salines. These works are, and must continue for many years, to be a vigorous competitor with our own.

So long as Saginaw continues the great center of a gigantic lumber trade, so long will she be a standing competitor in the production of salt. The refuse of her saw-mills is estimated to be sufficient for the annual manufacture of 12,000,000 of bushels of salt. During the past year her product has swollen to the enormous sum of 8,000,000 of bushels. This refuse would be totally valueless for any other use than as fuel for the manufacture of salt. In fact, it would be a nuisance to the lumber dealers, because it would subject them to the expense of carting it from their works and destroying it.

This furnishes to Saginaw, without charge, what is to us the main factor in the cost of our product. Were it not for the fact that the water at Saginaw is found at great depth, involving a large expenditure for pumping, and the additional fact that when raised to the surface it is found so charged with impurities (which cannot be gotten rid of except at large expense) it would be in vain for our works to struggle for an existence. With these facts before them, our own manufacturers have struggled to reduce the cost of the manufacture and, at the same time, to produce a pure article that would defy competition where quality rather than price was the desideratum. In quality the salt manufactured during the past year has never been excelled. Realizing, as I do, that in our quality is our only hope, I have strenuously labored to keep up a standard that would command a ready sale, and at prices which might prove remunerative. It is gratifying in this connection to state that the samples presented at the Centennial Exhibition, although placed by the side of a very large number of others furnished by different salines of our own country and from abroad, were pronounced the purest, and received the highest award. This concession was granted by an intelligent jury, composed in large part of experts from abroad.

The experience of the past year has been a trying one to those persons who have placed their capital in the business of salt manufacture. Since early in the season (after the second failure in the establishment of a salt company), the business has been conducted by individual enterprise and in consequence a fluctuating market has generally obtained; the large operators striving to keep the market up to a paying rate and the smaller ones selling at the low rates necessity forced upon them, and that at times below the cost of production. The failure of the manufacturing company, was, in my opinion, a severe blow to the salt interests. Combined effort can accomplish more than individual enterprise in all varieties of business, where active capital is required and competition exacts a practical economy in all the detail of its varied branches. The spirit of the age tends to a concentration of effort in all great commercial enterprises. By this means, first, the cost of the raw material is lessened, the expense of agencies dimished, markets are extended, and in our individual case, the character of the salt is kept at a higher standard, thus commanding a readier sale and at more remunerative prices.

Saginaw during the past season has adopted this wise policy. Hence, her large sales and general improved condition and prospects. The limited amount of money placed in my charge, especially designed to bring into use the new wells previously sunk, enabled me to equip only one-half of them. This, as will be seen by reference to the chemist's report hereto appended, has added materially to the strength of brine furnished and so far lessened the cost of manufacture.

The Legislature at its last session (at my urgent request), directed its standing Committee on Salt, to proceed to Syracuse and examine in person, the condition of the salt works. As the result of their inspection, they unanimously reported in favor of a special appropriation to the amount of $23,000, to finish a new water wheel and the necessary machinery and fixtures to bring into use the new and strong wells which had been sunk during the previous two years. This report met the approval of the Legislature and passed both houses with few dissenting votes. The Governor approved of only a portion of the appropriation, striking therefrom between $10,000 and $11,000 of the amount. It is not my desire, nor does it come within my province to question the reasons which influenced His Excellency in this decision. To one familiar, like myself, with the necessities of the situation, it seemed a peculiarly unfortunate decision, coming as it did, at a time when the business itself was almost in its death throes, and when the State was as directly a party in interest as the manufacturer himself. His Excellency, to whom the bill was submitted during the closing hours of the session, evidently did not appreciate its import, or he could not have inflicted so deadly a blow upon a vital interest of the great State over which he presided, and which, he in common with all others of her citizens had so just a pride. I incline to the opinion that if the requisite funds could at that time have been procured, to have brought all of the new wells into use at any early day, so as to have made them available during the whole of the manufacturing season, the continued existence of the salt company might have been secured and a brighter prospect might now be dawning upon us.

It is in vain to expect any business to thrive without the supply of means necessary for its life. In the language of a prominent manufacturer who is now a member of your honorable body, "we are depressed and the only remedy, for both us and the State is to make such a judicious expenditure of money as to insure to the manufacturer the greatest strength of brine, with an assurance of a sufficient supply, and in that way the State will aid in decreasing the cost, we trust to such an amount as will insure greater production and a consequent increase of revenue to the State." In former years the Legislature deemed it wise policy to foster the salt business by special enactments in the shape of bounties and drawbacks and in consequence reaped rich rewards.

At the present period the idea very generally prevails in the minds of the members of the Legislature that every appropriation made by their body is a direct draft upon the treasury of the State to be embraced in the next tax budget, instead of a return, as it strictly is, of the money which had been drawn from the manufacturers during the previous season in the shape of duties upon the salt made by them. In fact every appropriation for the support of the salt works is no more nor less than a special permission from the Legislature to use so much of the money already in the State Treasury as they may deem necessary for their maintenance.

Up to the present time (as will be seen by an examination of the books of the Treasurer), the State stands debtor to the salt springs in the princely sum of a fraction less than $5,000,000 in the shape of duties levied; not a very moderate return upon the original investment of $11,000 paid to the Indians for the whole domain, even encumbered as it was with an annuity of $700, in addition to an annual gift in perpetuity of 150 bushels of salt. In this computation is not included an additional $1,000,000 received by the State in the shape of canal tolls on salt transported and on fuel and other articles used in its manufacture. Of the 316 blocks in existence on the reservation only 106 have been in operation during the past season, showing that our present capacity for the manufacture exceeds 15,000,000 of bushels annually. It is no exaggeration to say that this limit may be reached with proper effort on the part of manufacturers and a wise patronage on the part of the State. An examination of the statistics of trade will show that the American people are fast becoming independent of other countries, and if so why should we continue to be purchasers of foreign salt when nature furnishes inexhaustible supplies at home for all our wants.

Under the second head as specified by statute, the superintendent is required to present to the Legislature a detailed statement as to the situation of the public works.

During the year all the work contemplated under the special appropriation provided for in the supply bill has been completed with the exception of a small amount ($210.89) to complete "new sand chest and salt tanks."

The estimate for this work as presented to the last Legislature by the superintendent, amounted to $23,000. In consequence of the veto of the Governor before alluded to, the actual amount provided for this purpose was $12,731.00. The condition of affairs was such, that the expenditure of less than the full amount asked for would have been of no practical benefit. To have furnished a steam engine for driving pumps designed to raise salt water, would have been of no avail without the pumps themselves, and both would have been useless without the conduits to carry the salt water to the points where it was to be used, and here again I was confronted by the fact that the engine heretofore used for driving the De Wolf group (which for the past two years had only been kept in running order by constant repairs), had entirely failed and had to be replaced by a new one. There seemed to be no alternative but to proceed, and I accordingly made the expenditure of the full amount of $23,000 and was obliged to draw the deficiency of $10,269.00, from the annual appropriation designed for the payment of salaries, repairs of machinery and general expenses incident to the office. How I am to pay these salaries, and other expenses that are to be met during the present fiscal year without legislative aid, is a problem I am unable to solve, except it be by pumping, from the weak wells, or curtailing the supply of water, but this would be death to the manufacturers and to the State revenue, I therefore feel forced to ask very reluctantly of your honorable body, to make such an appropriation at an early day as will enable me to preceed at once to equip the balance of the new wells, and to clean out other strong wells which, from the necessities of the case, have been subjected to severe pumping and thus have drawn deposits of sand into their bottoms, which, if suffered to accumulate much longer, will entirely shut off their present supply. Several of the strong wells, especially in the Salina and Geddes group, which, for the past few years, have been depended upon for the supply of strong brine, are in this condition. One of the best in the whole reservation "the Murphy well" has, during the past year, failed entirely, and can only be recovered by an expenditure of about two-thirds of the cost of a new well.

I assume the responsibility of speaking urgently in this matter because I am convinced of the fact that it is only by furnishing an abundant quantity of strong brine, that the salt business can be sustained in the future. The competition is now such that it must go to decay unless vigorous measures are adopted by the State for its permanent support. I have more confidence in presenting these views from the remembrance of the liberal spirit manifested by the committee of the previous Legislature after they had personally viewed the works and thus learned their needs and had devised the proper means of supplying them. I gladly avail myself of the opportunity of renewing my invitation of last year for an official visit of the standing committee, both of the Senate and Assembly, in order that the Legislature may have before them authoritative information of the real condition of the works and the expression of the committee's views as to the means of improving them if such are thought to be necessary. If I am wrong in the opinions I have expressed they will promptly ignore them, but if right they will as promptly meet the grave questions like practical business men and enforce the remedies needed.

The main conduit leading from the Salina wells to the large pumps, a distance of about half a mile, was laid down many years since, and has been in a leaking condition for a long time. Since its original construction an abutment of one of the bridges upon the canal side-cut had been built over it, the weight of which pressed the conduit out of line, and caused a leak, the magnitude of which could not be estimated, owing to its extreme depth below the surface. To prevent a recurrence of this evil I have caused a new line of conduits to be laid down for the entire distance. I have also caused the main line between the Syracuse and Geddes pump-house, as also the main line from Salina to Liverpool, a distance of about two and one-half miles, to be taken up, cleaned out and again relaid. I have to report that all the main lines of conduits upon the reservation are now in good working order.

Two of the large distributing pumps which I stated in my last annual report to be in a dangerous condition, to my surprise have worked efficiently during the whole season. A failure of these, if one should occur during the busy season of the year, would entail so large a loss upon the manufacturer and upon the State that I deem it too hazardous to attempt any longer to defer the construction of new ones if funds in my hands shall permit. One of the large water wheels in the Salina pump-house which has been in constant use since 1847, and has for the past two years shown signs of decay and required considerable expenditure, will this season need very thorough repairs. The wooden conduit and bulk-head supplying water to the large water wheel of the Geddes pumps has become so far decayed as to require an entire renewal. I have accordingly contracted with the firm of Cobb, Herrick & Co., of Syracuse, for a new conduit to be made of wrought iron. A very large, and as I think, unnecessary expenditure for coal has heretofore been made in supplying the boilers of the several engines used for driving the salt well pumps.

The supply of water heretofore used for conversion into steam, has been of a very impure character, being impregnated with lime and mixed more or less with salt. These impurities, when introduced with the water, rapidly solidify and form thick coatings upon the inside of the boilers, requiring a large increase of coal, besides injuring seriously, the texture of the iron of which the boilers are composed.

During the past season I have been obliged to renew the flues of the two boilers at the Syracuse and Geddes groups, and during the present winter, shall be forced to renew those of the two boilers in use at the Salina group.

The expense attending the firing and keeping in repair of the six steam boilers in use, has been such a constant and severe drain upon the annual appropriations, that I have decided to check a large portion of the waste, by attaching to each engine, a surface condenser, which will return the condensed steam to the boilers, and thus keep up a constant supply of distilled water. This condensation can be most economically accomplished, by simply passing through the condensers a portion of the cold brine as it passes on its way from the wells to the distributing pumps.

This will involve an expenditure of about $1,500 and will unquestionably save that amount annually in the item of fuel, to say nothing of the question of repairs.

In relation to the third clause of my duty as defined by statute, I have no recommendations to present, except to renew the one given in my report of 1874, and again repeated in 1875, and that pertains to the necessity of more stringent requirements for protecting the packages and preserving the purity of the salt anterior to its being thrown upon the market.

There are a few of the manufacturers, who have the prudence and sagacity, to protect their salt from injury during the interim between its packing in barrels and ultimate sale, by erecting suitable storehouses in which it may be placed. By very far the larger portion of them, however, after packing their barrels with great care, roll them out upon the canal landing, exposed to the sun and rain, not only destroying the fresh look of the package, but absolutely injuring the character of the salt therein contained. The heat of the sun shrinks the staves, leaving open cracks between them through which the rain enters after having been first discolored by falling upon the earthy matter, imparted to the barrels in the process of rolling them upon the ground.

Pure salt as it comes from the works is free from color, and is of intense whiteness. Extraneous matter introduced into it, which changes this pure white, detracts materially from its market value and should be strictly guarded against. Early in the history of the salt business, the State realized the importance of this matter and erected store-houses at the public expense where they required every manufacturer to store his salt under cover until sold.

The business has now become so extended and the manufactories spread over so broad an extent of territory, that it would involve a large expenditure of money to supply the erections. The only reasonable remedy to be applied now, would be for the Legislature to so amend the statute of 1859, pertaining to salt, as to require of each individual manufacturer to erect at his works a store-house of sufficient capacity, to store his salt and preserve the same, in bright condition preparatory to its sale Many slovenly manufacturers who see no advantage in high mercantile reputation, and are satisfied to palm off their product upon the strength of an inspector's brand, placed upon the package before injury, may object to it. But responsible and sagacious manufacturers would I think hail such an enactment with delight.

The statute requires that each block shall be supplied with duplicate settling cisterns of standard size for the storing of brine, preparatory to its being drawn into the kettles. The advantage of this requisition is, that the impurities in the brine are deposited previous to its evaporation; yet there is no more reason for requiring that the impurities found in the water shall be expelled before boiling, than that they shall be kept out of the salt after it has been made and the inspector's brand has been placed upon it. This law has been placed upon the statute books of the State of Michigan, and the Saginaw salines are reaping the benefit of it by largely increased sales.

A prominent dealer at Omaha informed me, that he kept on sale, both the Saginaw and Onondaga salt, and while he considered the latter superior, as to its purity and curative properties, he sold the larger quantity of the former to his customers, owing to the cleanliness of its packages. Under such circumstances the fair presumption is that the manufacturer would see his account in the voluntary application of the rule, but I am satisfied from my long experience, that it can only be effectually brought about by a mandatory statute. I herewith append, with more than usual pleasure, the able report of the chemist, Dr. Engelhart. His views upon the geological theory of the salt supply, deserve more than a cursory examination and his recommendations are worthy of the mature consideration of the members of the Legislature. His theory is not utopian, but the fruit of scientific investigation, and if found upon examination to be based upon truth, a large revenue might be made to flow into the coffers of the State. If salt in its fossil state can be found, a revolution of the salt business would be effected that would defy all competition, both from home and abroad, and make New York the great depot for the sale of salt for the northern and eastern States.

Appended will be found the usual tables, giving the total amount of salt inspected during the year, the receipts and disbursements of the office for the same time; as also, the net revenue derived from the manufacture of salt and paid into the general fund, since the duties were reduced to one cent per bushel in 1846.

All of which is respectfully submitted.

ARCHIBALD C. POWELL,
Superintendent.

SYRACUSE, *January* 15, 1877.

APPENDIX.

A.

Salt inspected at the Onondaga Salt Springs in 1876.

PLACES.	Solar.	Fine.	Solar ground.	Fine ground.	Aggregate bushels.
At Syracuse, district No. 1	220, 299	457,462	384, 307	2,978	1,065,046
At Salina, district No. 2	323, 859	1,684,915	77,860	....	2, 086,634
At Liverpool, district No. 3	158,568	315, 773	396,154	....	870,495
At Geddes, district No. 4	651,115	278,611	96,517	344,259	1,370,502
	1, 353,841	2,736,761	954,838	347,237	5,392,677

B.

Salt inspected at Syracuse, district No. 1, *in* 1876.

	Solar.	Fine.	Solar ground.	Fine ground.	Aggregate bushels.
For four weeks ending February fifth	430	9,730	....	....	10,160
For four weeks ending March fourth	95	2,129	34	....	2,258
For four weeks ending April first	....	3,830	....	....	3,830
For four weeks ending April twenty-ninth	....	19,741	16,224	....	35,965
For five weeks ending June third	....	33,864	50,940	....	84,804
For four weeks ending July first	4,937	54,115	28,369	2,978	90,399
For five weeks ending August fifth	53,274	73,447	58,331	....	185,052
For four weeks ending September second	47,540	54,950	43,334	....	145,824
For four weeks ending September thirtieth	62,339	58,321	57,976	....	178,636
For five weeks ending November fourth	26,244	95,322	52,045	....	173,611
For four weeks ending December second	22,580	32,280	63,317	....	118,177
For four weeks ending December thirtieth	2,860	19,733	13,737	....	36,330
	220,299	457,462	384,307	2,978	1,065,046

C.

Salt inspected at Salina, District No. 2, *in* 1876.

DATE.	Solar.	Fine.	Solar ground.	Fine ground.	Aggregate bushels.
For the five weeks ending February fifth..........	1,357	27,568	4,515	....	33,440
For the four weeks ending March fourth..........	38	13,270	....	....	13,308
For the four weeks ending April first	....	18,773	....	....	18,773
For the four weeks ending April twenty-ninth	....	9,608	....	....	9,608
For the five weeks ending June third	6,376	185,361	35	....	191,772
For the four weeks ending July first	4,948	78,578	....	....	83,526
For the five weeks ending August fifth...........	45,002	273,528	18,739	....	337,269
For the four weeks ending September second......	77,933	248,377	33,141	....	359,451
For the four weeks ending September thirtieth	79,417	252,722	3,744	....	335,883
For the five weeks ending November fourth.......	46,308	340,360	6,773	....	393,441
For the four weeks ending December second......	49,364	180,354	4,629	....	234,347
Four the four weeks ending December thirtieth ...	13,116	56,416	6,284	....	75,816
	323,859	1,684,915	77,860	....	2,086,634

D.

Salt inspected at Liverpool, District No. 3, *in* 1876.

	Solar.	Ground solar.	Fine.	Aggregate bushels.
For five weeks ending February fifth	3,125	5,200	5	8,330
For four weeks ending March fourth	1,542	4,354	10	5,906
For four weeks ending April first	1,975	7,332	24	9,331
For four weeks ending April twenty-ninth	375	10,362	106	10,843
For five weeks ending June third	6,117	9,910	48,389	64,416
For four weeks ending July 1st	1,264	16,660	29,665	47,589
For five weeks ending August fifth	40,600	41,378	36,415	118,393
For four weeks ending September second	37,129	86,522	55,838	179,489
For four weeks ending September thirtieth	53,478	95,825	43,620	192,923
For five weeks ending November fourth	2,792	99,910	70,819	173,521
For four weeks ending December second	4,752	18,139	30,674	53,565
For four weeks ending December thirtieth	5,419	562	208	6,189
	158,568	396,154	315,773	870,495

E.

Salt inspected at Geddes, district No. 4, *in* 1876.

DATE.	Solar.	Fine.	Solar ground.	Fine ground.	Aggregate.
For five weeks ending February fifth	11,948	4,748	....	6,302	22,998
For four weeks ending March fourth	5,646	630	....	7,010	13,286
For four weeks ending April first	7,992	3,700	....	15,476	27,168
For four weeks ending April twenty-ninth	6,721	13,485	....	11,407	31,613
For five weeks ending June third	13,330	32,432	....	45,086	90,848
For four weeks ending July first	13,409	29,257	....	49,705	92,371
For five weeks ending August fifth	155,441	25,690	....	61,038	242,169
For four weeks ending September second	120,233	44,209	....	35,097	199,539
For four weeks ending September thirtieth	141,449	34,964	16,800	46,158	239,371
For five weeks ending November fourth	117,694	59,129	72,120	36,516	285,460
For four weeks ending December second	40,116	24,175	7,467	27,185	98,943
For four weeks ending December thirtieth	17,135	6,192	130	3,279	26,736
	651,115	278,611	96,517	344,259	1,370,502

F.

Table showing the net revenue derived from the manufacture of salt, and paid into the General Fund since the duties were reduced to one cent per bushel.

Year.	Amount.
1846	$7,705 48
1847	9,717 63
1848	21,491 46
1849	20,153 69
1850	15,104 87
1851	13,337 55
1852	19,284 61
1853	29,557 19
1854	23,711 57
1855	10,867 46
1856	9,690 79
1857, deficit $6,603.01.	
1858	19,766 93
1859	27,306 38
1860	12,342 50
1861	26,761 28
1862	49,696 21
1863	38,064 94
1864	29,906 96
1865	18,620 59
1866	24,557 48
1867	25,089 73
1868	37,244 06
1869	41,211 09
1870	24,411 38
1871	34,507 08
1872	33,991 78
1873	15,130 42
1874	3,106 88
1875	5,903 66
1876	4,871 08
	$653,112 73

Deduct deficit in 1857	$6,603 01	
Also amount paid by Comptroller on account of expenditures contracted previous to March 1, 1857	7,000 00	
		13,603 01
Total net revenue above expenditures		$639,509 72

G.

The following is a statement of the number of bushels of salt made at the Onondaga salt springs since June 20, 1797, which is the date of the first leases in lots.

DATE.	Solar.	Fine.	Aggregate bushels.	Superintendents.
1797	....	25,474	25,474	William Stevens.
1798	....	59,928	59,928	William Stevens.
1799	....	42,704	42,704	William Stevens.
1800	....	50,000	50,000	William Stevens.
1801	....	62,000	62,000	Sheldon Logan.
1802	....	75,000	75,000	Asa Danforth.
1803	....	90,000	90,000	Asa Danforth.
1804	....	100,000	100,000	Asa Danforth.
1805	....	154,071	154,071	William Kirkpatrick.
1806	....	122,577	122,577	William Kirkpatrick.
1807	....	175,448	175,448	P. H. Ransom.
1808	....	319,618	319,618	Nathan Stewart.
1809	....	128,282	128,282	John Richardson.
1810	....	450,000	450,000	William Kirkpatrick.
1811	....	200,000	200,000	William Kirkpatrick.
1812	....	221,011	221,011	William Kirkpatrick.
1813	....	226,000	226,000	William Kirkpatrick.
1814	....	295,000	295,000	William Kirkpatrick.
1815	....	322,058	322,058	William Kirkpatrick.
1816	....	348,665	348,665	William Kirkpatrick.
1817	....	408,665	408,665	William Kirkpatrick.
1818	....	406,540	406,540	William Kirkpatrick.

1819	....	548,374	548,374	William Kirkpatrick.
1820	....	458,329	458,329	William Kirkpatrick.
1821	....	526,049	526,049	William Kirkpatrick.
1822	....	481,562	481,562	William Kirkpatrick.
1823	....	726,988	726,988	William Kirkpatrick.
1824	....	816,634	816,634	William Kirkpatrick.
1825	....	757,203	757,203	William Kirkpatrick.
1826	....	811,023	811,023	William Kirkpatrick.
1827	....	983,410	983,410	William Kirkpatrick.
1828	....	1,160,888	1,160,888	William Kirkpatrick.
1829	....	1,129,280	1,129,280	William Kirkpatrick.
1830	....	1,435,446	1,435,446	
1831	....	1,514,037	1,514,037	N. H. Earll.
1832	....	1,652,985	1,652,985	N. H. Earll.
1833	....	1,838,646	1,838,646	N. H. Earll.
1834	....	1,943,252	1,943,252	N. H. Earll.
1835	....	1,209,867	1,209,867	N. H. Earll.
1836	....	1,912,858	1,912,858	Rial Wright.
1837	....	2,167,287	2,167,287	Rial Wright.
1838	....	2,575,033	2,575,033	Rial Wright.
1839	....	2,864,718	2,864,718	Rial Wright.
1840	....	2,622,305	2,622,305	Thomas Spencer.
1841	*220,247	3,120,520	3,340,767	Thomas Spencer.
1842	163,021	2,128,882	2,291,903	Thomas Spencer.
1843	318,105	2,809,395	3,127,500	Rial Wright.
1844	332,418	3,968,136	4,300,554	Rial Wright.
1845	353,455	3,408,903	3,762,358	Enoch Marks.
1846	331,705	3,507,146	3,838,851	Enoch Marks.
1847	262,879	3,688,476	3,951,355	Enoch Marks.

* Previous to 1841 the solar salt was not reported separate, but included in the aggregate production.

G — (*Continued*).

DATE.	Solar.	Fine.	Aggregate bushels.	Superintendents.
1848	342,497	3,394,629	4,737,126	Robert Gere.
1849	377,735	4,705,834	5,083,569	Robert Gere.
1850	374,732	3,894,187	4,268,919	Robert Gere.
1851	378,967	4,235,150	4,614,117	Robert Gere.
1852	633,595	4,288,938	4,922,533	Hervey Rhoades.
1853	577,947	4,826,577	5,404,524	Hervey Rhoades.
1854	734,474	5,068,873	5,803,347	Hervey Rhoades.
1855	498,124	5,584,761	6,082,885	Vivus W. Smith.
1856	709,391	5,257,419	5,966,810	Vivus W. Smith.
1857	481,280	3,830,846	4,312,126	Vivus W. Smith.
1858	1,514,554	5,518,665	7,033,219	Vivus W. Smith.
1859	1,345,022	5,549,250	6,894,271	Vivus W. Smith.
1860	1,462,565	4,130,682	5,593,247	Vivus W. Smith.
1861	1,884,697	5,315,649	7,200,391	Vivus W. Smith.
1862	1,983,022	7,070,852	9,053,874	Vivus W. Smith.
1863	1,437,656	6,504,727	7,942,383	Vivus W. Smith.
1864	1,971,122	5,407,712	7,378,834	Vivus W. Smith.
1865	1,886,760	4,499,170	6,385,930	George Geddes.
1866	1,978,883	5,180,320	7,158,503	George Geddes.
1867	2,271,892	5,323,673	7,595,565	George Geddes.
1868	2,027,490	6,639,126	8,666,616	George Geddes.
1869	1,857,942	6,804,295	8,662,237	George Geddes.
1870	2,847,691	6,260,422	8,748,115	George Geddes.
1871	2,464,464	5,910,492	8,374,956	John M. Strong.

1872	1,882,604	6,048,821	7,930, 925	John M. Strong.
1873	1,691,359	5,768,998	7, 460,357	John M. Strong.
1874	1,667,368	4,361,932	6,029,300	A. C. Powell.
1875	2,655,955	4,523, 491	7,179,446	A. C. Powell.
1876	2,308,679	3,083, 998	5,392,677	A. C. Powell.
Total since 1797	41,869, 598	208,017, 667	249, 887,265	

SYRACUSE, *January* 5, 1877,

To the Hon. A. C. Powell, Superintendent of the Onondaga Salt Springs:

DEAR SIR.— During the season just closed the average strength of our brine has been again increased over that of last year, by more than one and a-half degrees of salometer, as is evident from tables one and two annexed to this report. This increase is in a great measure due to the additional supply of strong brine from the two new wells in the Geddes group.

The advantage of a strong brine for the manufacture of fine or boiled salt — when the proper precautions are taken for the removal of the thick blockings in the front kettles — has been demonstrated in Geddes during last summer in some of the salt blocks belonging to the "Ashton Salt Company," while during the same time, and under precisely similar circumstances, one block, furnished with State brine, produced forty-three bushels of salt per ton of fuel, another supplied with brine of eight degrees salometer stronger yielded forty-eight bushels for the same amount of coal, which, in a pecuniary point of view, is a saving of one cent per bushel of salt made, or on 50,000 bushels, the average capacity of a salt block $500; on 6,000,000 bushels, the former annual production of Syracuse, $60,000. What I have just stated in regard to the production of fine salt from strong brine is equally true, and has been demonstrated for the last six years in regard to the production of solar salt. Those solar salt companies that have their own wells, consequently a sufficient supply of brine at all times, produce on an average from eight to ten bushels more salt for the season, on a surface of 288 square feet, or what is usually denominated one cover, than those supplied from the State wells. Calculating it for the entire solar fields it would make a difference of 400,000 bushels of salt, equal to at least $40,000. Thus it will be seen that an increase in the strength of our brine of eight degrees is equal to a gain of $100,000 for our salt manufacturers, an item deserving the most serious consideration from the State.

It is, as I stated last year, during the months of June, July and August, when the largest amount of salt is made, both on the salt blocks and the solar fields, being the most advantageous time in the season, on account of the weather and the increased temperature that a full supply of brine is most desirable, but usually most difficult to obtain, hence it becomes absolutely necessary, not alone to tax the stronger wells to their utmost capacity, but also those weaker ones have to be brought into requisition, which lose almost one-third of their original strength within forty-eight hours after starting them, thereby reducing the average for these months from three to six degrees in the various districts.

The most important, in fact *the* question for the State therefore is: How can this annual decrease in the strength of the Onondaga brines be prevented?

According to the official report of the Chief of the Bureau of Statistics on the commerce and navigation of the United States for the fiscal years ending June 30, 1874 and 1875, there were imported into the United States:

In 1874 and 1875, 26,885,948 bushels of salt, valued at $3,851,650.73, and duty collected $1,475,309.58.

In 1868 and 1869, 19,331,591 bushels of salt, valued at $2,527,444.02, and duty collected $2,312,121.79.

While therefore, the people of the United States paid during the years 1874 and 1875, $836,812.21 less duty on salt, they send out of the country for an article which can be made at home, and in the manufacture of which, directly, are at least 20,000 persons engaged, $1,324,206.71, which is just so much on the wrong side of their balance sheet. The amount of salt more imported during the years of 1874 and 1875, was 7,554,357 bushels, and at Syracuse during the same years 4,120,107 less bushels were manufactured than in 1868 and 1869, or over 2,000,000 per year, the amount formerly sent from Syracuse to New York.

The State now possesses three more strong wells, with a brine of a superior quality. If they could be available early in the spring, their supply of brine would very materially assist during the summer months in keeping up a higher strength of the average brine than was possible heretofore.

The general application of anthracite dust, would, from the experience of the two last years, reduce expenses considerably, provided it could be purchased at a very low price, and would always be delivered of the same good quality. The difficulties of introducing its use generally are mainly two: First, it requires an outlay of at least $2,000 on the part of the manufacturers in adopting this plan to their blocks; secondly, to gain the very best results, the blocks must be enlarged by the addition of from forty to sixty kettles for each block. But this enlarging of the blocks is only possible in cetain localities on the reservation, and consequently comparatively few manufacturers, and only the rich ones, can avail themselves of this improvement, while the poor ones, whose entire possession is a salt block, often heavily incumbered with debt, will have to see their property go entirely to ruin, unless brine can be furnished of such quality, as will enable them to make salt profitably.

The natural sources of all salt supplies are either rock salt, salt springs, salt lakes, or finally the ocean. At Syracuse we have derived all our salt since 1797, from salt wells, amounting up to the present time to 250,000,000 of bushels; to which we must add at least, 50,000,000 more, for loss incurred in the various manufacturing processes by leakage, making a grand total, of 300,000,000. The number of wells sunk from time to time to produce this large amount cannot be less than 200, at an expense of at least, $750,000. The question, therefore, naturally arises, and it is a most important one, in regard to our salt industry, from whence does this large amount of salt come, which would cover a surface of 120,000,000 of square feet, one foot high with solid salt? It certainly was not stored up in the ancient valley of erosion, below our feet, in the form of brine. Therefore, it must occur in the solid form, as a bed of rock salt. Up to date, very few attempts have been made to ascertain the actual source of our brine. The first was made in 1838, when the State sunk a well at Salina 600 feet deep, of which the superintendent in his report for 1839, says: "Passing through the immense masses of the red and blue shales, and the limestones (Niagara), below, it terminated in the protean group" (Clinton). "Whatever may be its source, it is well observed by the learned geologist of this district, in his last annual report, that it is only to be sought in a southern direction from which all the waters naturally flow." The salt company of Onondaga sunk, in 1867, a well at Liverpool 715 feet deep, which, according to Prof. Goessman, passed through eighty-two feet of alluvion, 279 feet of red and green shales, thirty-three feet of calcareous shales, 106 feet of lime-stone formation, and finally, 215 feet of various veins of shales. These are the only two attempts ever made to solve this question. Let us now consider the opinions, which are undoubtedly entitled to our highest consideration, coming as they do from men of great scientific acquirements. Dr. Lewis C. Beck (in the mineralogy of the State), says: "Of all the theories that have been proposed to account for the formation of these springs, there is none so free from objection as that which ascribes it to the solution of beds of fossil salt."

Vanuxem remarks: "The salt group, as a whole, presents the same order of saline deposits, including the iron, observed in the salt vats, where solar evaporation is used. The group shows first, a thick mass, colored red with iron, being its red shale, above which are the gypseous masses; toward the upper part of which are *the salt cavities;* the sulphate of magnesia exists above the whole of these deposits, its existence there being manifested by the needle-form cavities."

Prof. Hall supposes that both the Medina sand-stone (which lies immediately below the Clinton group), and the Onondaga salt groups owe their origin to mud volcanos; "an overwhelming inundation of mud, charged with saline matter, and corroding acids, which would alone destroy all organism." The Hon. Vivus W. Smith, alluding to this subject, said in 1856: "The mass of alluvion resting upon the impervious strata of the Niagara lime-stone, is now saturated with brine derived from the solution *of fossil salt* in the gypseous formation, which has its outcrops along the southern border of the valley, and extends to an indefinite distance under the superincumbent transition strata of the south and the south-west."

"The Onondaga salt basin is the only one of the numerous valleys of denudation in the State, which lies wholly in the Onondaga salt groups; the great depth of the excavation accounts for the large accumulation of brine here. Salt water may be found any where in the State (also in Canada West, Michigan and Wisconsin), near the line of the canal, by boring into the rock composing the Onondaga salt group, but the surface exposed by a mere boring of a few inches in diameter, admits of no important accumulation or flow of brine. The dip of the rock ascertained by actual measurement to be about twenty-six feet to the mile, in a southerly or south-westerly direction, confines the salt water in Onondaga, to the south of the outcrop of the Niagara lime-stone."

In the survey of Onondaga, page 248, the Hon. G. Geddes remarks: "If an excavation were made further south, where the overlying rocks are thick enough to protect the salt-bearing rocks from the action of water, *undissolved salt* might be found."

Prof. Goessmann, states in his contribution to the chemistry of brines, 1867: "The brines of Onondaga issue from rocks of the upper Silurian age; they indicate with great probability by their *composition, concentration and copiousness*, a close connection with quite an extensive salt deposit of that age."

After comparing the analytical results of the mineral waters of Canada, with those in the vicinity of Syracuse, he concludes: "If such relations exist in regard to the natural saline bitterns of both localities, as the history of the liquid No. V suggests, we may be entitled to assume, considering the area of actual observation, the existence of extensive salt deposits within the Silurian basin." "Natural solutions of rock salt, furnish us with brines at Saltville in north-western Virginia, of Goderich, Canada West, and as I believe of Onondaga, N. Y." (From contribution to the chemistry of common salt, by C. A. Goessmaun Ph. D.)

Prof. Sterry Hunt's* opinion on the Syracuse salt sources is given in the following words: "The discovery in Ontario of rock salt in solid masses interstratified with the base of the Onondaga formation, leaves, however, but little doubt of the correctness of the views long maintained by the New York geologists, that the source of the brine is to be found in this formation. Borings like those of Goderich will probably one day show the existence in the vicinity of Syracuse of similar beds of rock salt, which now yield to the action of infiltrating waters, the brines that accumulate in the gravel beds occupying the reservoirs just described. These also receive the bitter waters which are derived from the shales of the same formation, and contaminate the brines of Syracuse; although they do not mingle to any injurious extent with the water from the borings of Goderich and its vicinity."

The presence of salt water south of the reservation was already known in 1800, since which time salt was made for several years about forty rods south of it. Mr. Smith's well (of which I gave an analysis in the report for 1873), is in that neighborhood, and one of the oldest and best salt-licks is about a mile north-east of Cardiff on a meadow, where the valley is most narrowed together by the hills on both sides.

The opinions previously quoted are almost entirely based on the peculiar geological formation of our county, which may be described as follows:

The lowest formation that crops out is the Clinton group, which rests on the Medina sand-stone. To both the Hon. G. Geddes gives a thickness of eighty feet. The Clinton group is covered by a layer of the Niagara limestone from five to seven feet, which is succeeded by the Onondaga salt groups. The lowest member of the group is the red shale, which is estimated to be between 400 and 500 feet thick. (In our last well, situated almost in the center between Syracuse, the lake, Salina and Geddes, the red shale was first struck at a depth of 445 feet.) Immediately above (south of the Erie canal) the green or gypseous shales make their appearance with from 250 to 275 feet, forming the second member of the group, and these are followed by about 100 feet of water line rocks, the upper part of the Onondaga salt group. Thus it is evident that the salt group south of the city must be between 800 and 900 feet. Our Onondaga limestone (thickness about fifty feet) which rests on the water line is wanting in Canada, and the next formation the carniferous limestone is found there to follow immediately on the Onondaga salt group.

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*Report on the Goderich salt region by T. Sterry Hunt, 1870, page 12.

The similarity in the formation of the two localities, their almost equal thickness in both places, and the large amount of salt that we have made, can lead only to one conclusion, namely that south of Syracuse a large bed of fossil salt must be situated.

Would it therefore not be more economical on the part of the State to have this subject thoroughly examined by the State geologist, and if found correct dig a test well for the purpose of either finding the salt rock, or at least saturated brine, thus avoiding the necessity of sinking new wells year after year in the proportion as the older ones become useless? The only objection that can be raised against this proposition is that everybody can dig wells there without paying duty to the State, but it loses much of its force, if we consider that the valley is narrow, the ground very valuable as farm land, but not well adapted to the manufacture of salt. Moreover, there are not the ready means of transportation as at Syracuse, with two canals and seven railroads. The erection of the necessary works for the manufacture of salt requires an enormous capital, if it should be done on a large scale. Our works with an abundance of saturated brine could produce at least 15,000,000 bushels of salt, which would in less than ten years return to the State in duty all the expense incurred in such an undertaking. Our salt industry would revive; we could then successfully enter our old markets and compete with our rivals.

Our brines, as remarked by Professor Hunt, suffer somewhat from the bitter waters of the shales, which is especially the case in some of the wells of the Geddes group, where, in consequence of their mingling with the strong brines, a large amount of the gypsum (contained in the brine) separates not alone in the cavity below the tube, but also in the latter. These wells are now very rarely pumped and their brines are never used in the manufacture of fine salt, much less in that of the dairy salt, hence the statement on Messrs. Gray, Young and Sparling's card, that our average brines contain .41 per cent of the chloride of calcium and magnesium is not correct. I am of the opinion that if saturated brine is found south of Syracuse, these chlorides will be confined to mere traces, as is the case in the Canada brines.

At the Philadelphia Centennial exhibition (which I had an opportunity to visit), were represented from the United States, Michigan, with a very creditable exhibt of common, fine and coarse salt, and also samples of the brines in the mineral annexed. Ohio had samples of common, fine, coarse and dairy salt, from Pomeroy, and the State of Pennsylvania was represented by one exhibitor. Canada exhibited native salt from Salt River, twelve samples of common, fine (two of them from N. B.); five samples of coarse, and four of dairy and table salts, besides samples of brine. Mexico had salt samples on exhibition, made from the waters of the salt lakes of the valley of Mexico. Brazil exhibited sea salt from Cape Frio. The Argentine Republic, as in every thing else that is produced there, was most fully represented in its salt samples. There were on exhibition salt extracted from earth found on the banks of the Santa Luica river, with samples of this earth; sa mples of rock salt from four localities, three samples of common, fine, three samples of block salt, four samples of salt made from the water of salt lakes, and one sample of coarse salt.

Portugal exhibited no less than thirteen samples of sea salt, while Spain had four samples of sea salt and eleven other varieties.

England was represented by only two exhibitors, the Stock Prior salt works, with common, fine, coarse and dairy, and Higgins with factory filled. Italy had rock salt from Catania and Missina. Of sea salt samples, there were two from Trapany and two from Palermo.

The German Empire had a magnificent exhibition of the salt production from Stassfurt; the samples of rock salt, Carnallit, Kainit, Vieserit, Stassfurtit, etc., were magnificent.

Of the British Possessions not previously mentioned, Tasmania had two exhibits, one with three varieties. Jamaica was represented by two manufacturers of sea salt; while India had no less than two samples of rock salt, seventeen samples of common, fine, one of refined salt and one of block salt used for medicinal purposes.

France, with her enormous production of sea salt and other varieties, appeared to have none exhibited. The same appeared to be true of Austria, Russia and Switzerland.

If, then, among so many exhibitors and exhibits of salt, the jury decided in favor of the salts of the Syracuse companies, it should induce both the State and the manufacturers, not alone to see to it, that they may merit this high honor in the future, but if possible to improve upon it.

Our fine salt would be greatly improved if the manufacturers would in the middle of the salt run remove the strong pickle, as is now done in the manufacture of salt for dairy purposes. In the coarse works the main attention should be directed first, to the removal of the pickle, as soon as the latter becomes too strongly charged with bitter water. Secondly, in never allowing a pickle to be drawn from the lime rooms till it is perfectly saturated, recognized, when actually crystals of salt made their appearance in the lime vats; and thirdly, by an occasional removal of the mechanically suspended impurities floating on the salt pickle.

Of late we have made our raw material for the production of F, F, dairy salt from those wells alone that possess water of the greatest purity; and we are therefore now able to furnish an article of that purity and uniformity of composition, as the late analysis made for the New York Butter and Cheese Exchange proved it to be.

Very respectfully.

F. E. ENGELHARDT, Ph. D.

TABLE I.

MONTHS, 1876.	SYRACUSE.			SALINA AND LIVERPOOL.			GEDDES.					AVERAGE.		
							BLOCKS.			FIELDS.				
	Temperature, Fahrenheit.	Salometer, degrees.	Per centage of saline matter.	Temperature, Fahrenheit.	Salometer, degrees.	Per centage of saline matter.	Temperature, Fahrenheit.	Salometer, degrees.	Per centage of saline matter.	Salometer, degrees.	Per centage of saline matter.	Temperature, Fahrenheit.	Salometer, degrees.	Per centage of saline matter.
April	53.17	66.66	17.48	53.00	67.00	17.57	53.66	70.25	18.45	74.80	19.65	53.30	69.14	18.14
May	53.60	68.35	17.94	54.40	69.95	18.38	54.70	70.90	18.65	73.70	19.88	54.86	70.53	18.55
June	55.80	65.81	17.18	56.00	68.08	17.93	56.48	65.86	17.36	69.85	18.41	56.03	67.43	17.76
July	57.83	64.94	17.17	59.63	65.14	17.25	60.59	64.63	17.14	67.82	17.98	59.65	65.53	17.37
August	56.88	65.56	17.55	59.19	65.81	17.41	60.30	65.20	17.28	68.22	18.08	59.19	66.12	17.50
September	55.00	69.08	18.17	56.41	69.83	18.27	56.44	68.38	18.02	71.22	18.78	56.14	69.47	18.30
October	52.35	70.91	18.58	53.62	71.54	18.78	52.86	72.33	18.97	72.33	18.97	52.82	71.73	18.18
Average for the season	54.88	67.26	17.68	55.80	68.12	17.94	56.42	68.22	17.98	71.13	18.75	55.92	68.56	18.06

TABLE No. II.

Showing strength of brine in the four districts, also amount of salt inspected from 1865 *to* 1876.

DATE.	Syracuse.	Salina.	Liverpool.	Geddes.	Average.	Bushels of salt.
1865	66.17	66.47	60.65	66.17	64.86	6,385, 930
1866	65.90	65.81	58.34	65.90	63.98	7,185,503
1867	64.44	64.35	64.35	63.95	64.27	7,595,565
1869	60.98	60.36	60.36	59.02	60.88	8, 662,237
1870	59.49	58.94	58.94	59.34	59.22	8,748,115
1871	63.00	62.35	62.35	63.82	62.88	8,374,956
1872	65.10	66.00	66.00	66.20	65.82	7,930,929
1873	63.43	65.43	65.43	67.52	65.45	7, 460,357
1874	63.80	66.15	66.15	67.15	65.81	6,029,300
1875	63.88	66.38	66.38	69.50	66.54	7,179, 446
1876	66.75	67.70	67.70	69.33	68.15	5,392,677

No records found for the year 1868.

STATE OF NEW YORK.

No. 30.

IN ASSEMBLY,

January 19, 1877.

REPORT

OF THE COMMISSIONERS APPOINTED UNDER CHAPTER 382 OF THE LAWS OF 1876, TO INVESTIGATE CERTAIN LATERAL CANALS.

To the Honorable the Legislature of the State of New York:

The undersigned, commissioners appointed under chapter 382 of the Laws of 1876, to investigate certain lateral canals of this State, and to report upon the disposition to be made thereof, respectfully submit the following report:

That, in compliance with the requirements of the law under which they have acted, they have personally "visited, inspected and examined" the whole length of each of the five canals submitted to their examination, together with all the reservoirs and other appurtenances connected therewith, and have taken testimony in regard to their condition and business, of various parties in the management thereof, and of citizens living on their lines, who were supposed to be interested in their continuance.

While thus investigating the actual condition of these public works, your commissioners have deemed it their duty also to inquire into the wants and needs of the country through which they have been constructed, for means of freight transportation, and as to what substitutes for the canals private enterprise had provided for this service.

They have also considered it within the legitimate scope of their commission to ascertain as nearly as may be, the probable tendency of the future transportation business of the country, whether to continue through these channels constructed by the State, or to be transferred to such other routes as have been opened by the associated enterprise of private citizens; and also to make some approximate estimate of the resources of the country which are being developed and are likely in the near future to seek a market by means of any of these canals.

The annual decrease of business on these canals, and the principal causes thereof have also been considered, and are herein presented in the remarks separately made on each of these canals.

Your commissioners believe that, in the investigation they have been able to give the subject, they have collected, and have the honor now to present to the Legislature, all the information which is attainable or necessary for a complete and intelligent understanding, and solution of the question of the sale, abandonment, or the farther maintenance of these canals.

If the testimony, which they have taken and herewith submit, appears to be meager in extent, the undersigned beg leave to insist that this is owing, not so much to any failure of theirs in the prosecution of the investigation, as to the actual meagerness of the subject. They believe the subject has been substantially exhausted by them, and that no additional facts, connected therewith, can be adduced that will not tend to confirm, rather than impair the conclusions at which they have arrived.

Some difficulty has been met in the attempt to compute the exact amount of tolls which each of these lateral canals has contributed "to the system," but, although the difficulty has not been entirely overcome, and although, from the way in which the transfer of shipping from these canals to the Erie has been conducted, the actual amount of their contribution can never be definitely known, yet it is believed that if the highest estimate were admitted to be true, it would not materially affect the opinion which has been reached, nor abate from the force of the recommendation submitted.

Your commissioners have taken pains to ascertain the reasons which induced the State in each case, to construct these canals, the public and private interests supposed to be subserved in their operation, and the hopes that were entertained of each one becoming and forever remaining an indispensable branch of a great system of internal commerce and navigation.

Whatever was their force originally, these reasons have, in their present application to some of these canals, lost all their potency and adaptation; the interests to be subserved by the canals have, in some cases, largely ceased to exist or are otherwise better cared for; and the contribution to a permanent and general system so confidently expected has been a failure from the first and, in unmistakable instances, is decreasing in amount year by year.

If the solution of the question of abandonment or continuance of the lateral canals depended solely upon that of their ability to sustain themselves, or upon the amount of their contribution to a general system of internal navigation, the difficulties involved in it would be largely removed, and there could hardly be any diversity of opinion as to the future policy of the State in regard thereto.

They have never sustained themselves from their own earnings and their contributions to the Erie, even when they were the only or principal channels of traffic in the sections of the State through which they pass; they are much less likely to do so in the future in rivalship with strong competing systems of transportation, affording more rapid communication and conducted by individual and interested enterprise.

But your commissioners have deemed it just to take into consideration another important element which seems fairly to be involved in the solution of the question, and going beyond the question as to whether these canals "paid" their way pecuniarily or not, the undersigned have endeavored to inquire if they were useful or necessary to the people of the State, and especially to the interests of the citizens who live near their borders. It is believed, that upon a due appreciation of this feature of the question, a marked distinction can be drawn between these several canals. Another consideration, nearly allied to the latter, if not involved in it, will lead to a like distinction and would seem to justify exceptional action on the part of the State. The business interests on the line of these canals, which sought an avenue through them to the commercial emporium of the State, have in some cases entirely, and in others almost entirely disappeared or have been turned permanently into other channels, while in the exceptional case they are growing in importance and in number, and promise to increase in these respects much more in the future.

In the first instance the business of the canal is gone or is fast disappearing, and its necessity no longer exists; in the latter the business is to grow and multiply and the canal to become more and more useful to the people.

Allowing due weight to these considerations and recognizing the spirit of economy and the desire for retrenchment which pervade the people, your commissioners submit their recommendations to the judgment of the Legislature.

Following, as nearly as may be, the order of inquiry prescribed in the law appointing the commission, your attention is called to the

CHENANGO CANAL.

Its Location and Condition.

This canal commences in the city of Utica, at what is called the Frankfort level of the Erie canal, into which it empties, and extends south to the city of Binghamton, a distance of ninety-seven miles. The summit level of this canal, which is reached at Solsville, is about 760 feet above the Frankfort level of the Erie, and is attained through seventy-six locks in a distance of about twenty-three miles; it is about five miles in length and extends nearly to the village of Hamilton. Thence the canal descends about 380 feet through thirty-eight locks, a distance of about sixty-nine miles to the city of Binghamton.

The waters of Madison brook, Leland's pond, Kingsley's brook, Bradley's brook, Hatch's lake and Eaton reservoirs are discharged into the summit level near the village of Bouckville.

The waters of Woodman's pond, a small reservoir near the village of Hamilton, are discharged into the level next south of the summit level and flow south.

Between the summit level and Binghamton, the canal is still farther supplied by contributions of water through five or six feeders from the Chenango river.

All the water from the reservoirs which empty into the summit level flows north to the Erie, except such as is discharged by lockage at the south end of this level. A portion thereof is discharged at Solsville into Oriskany creek and thence into the Rome level of the Erie near the village of Oriskany, whenever, in a dry season, the same may be desired to make up any deficiency of water in that level and the balance thereof is discharged through the canal into the Frankfort level of the Erie.

The total length of the feeders to this canal is eighteen miles.

The structures are 111 composite and stone lift locks, seventeen wooden locks, two guard locks, forty-four stone culverts, twenty-three waste weirs, seventeen iron road bridges, fifty wooden road bridges, ninety-six wooden farm bridges, thirty-nine wooden feeder bridges, six swing bridges, six wooden tow-path bridges, four reservoir dams, four feeder dams, twenty-two lock-houses and shops.

Many of the locks, aqueducts and other structures on this canal are in very bad condition, and will require extensive repairs if navigation is to be continued thereon; and to guard against great risk of serious damage to adjacent property from breakage several of them must be replaced by new structures within the course of two or three years. The possibility of operating this canal one year longer with the outlay therefor, which was expended thereon during the last season, will wholly depend upon the ability of these dilapidated structures to last through the season, with only ordinary repairs. Should any of the locks or aqueducts give way, a large additional expense will necessarily be incurred to restore the canal to navigable condition.

The estimate of the division engineer for the middle division of the canals, embraced in the exhibits herewith submitted, is respectfully referred to for further statement on this subject.

What is known as the Binghamton dam is built across the Chenango river at Binghamton, about one mile from the present southern terminus of the Chenango canal, and above where the canal originally touched the river. It is a part of what is termed the Chenango canal extension, on the south side of the river, rather than of the Chenango canal proper.

There was a dam across the river at this place owned by private parties, whose title the State acquired, and in 1872, the Canal Commissioners raised it a foot and a half for the purpose of deepening the water above it, so as to float boats entering it from the canal, and thus establish a connection between the canal proper and the canal extension.

From a point in the river, a short distance above the dam, and within the flow caused by it, a canal was to be constructed to the

Chenango canal, a distance of perhaps half a mile. That canal was partly built, but never completed, and thus no boats were ever passed from the canal to the river, and the dam has therefore subserved none of the purposes for which it was purchased, and its hight increased.

It has been a prolific source of claims, by owners of property above it, for damages alleged to have been sustained in consequence of this raising of the dam. Claims to the amount of $118,980 are now on file in the Canal Appraisers' office, and still undetermined; a continuance of the dam at its present hight will undoubtedly subject the State to still further claims, if the Canal Appraisers shall determine any of the present ones to be just.

On the bank of the river, at the southerly end of the dam, the State owns considerable land, which is available for mill sites; the right of the State to the waters of the river, and the adjoining land is valuable and can be sold.

That portion of the canal formerly lying in the city of Binghamton is now abandoned.

Direct Revenue.

The amount of tolls collected on this canal during the season of 1876 is $3,096.32. See table No. 1.

Contribution to the System.

The amount of tolls contributed to the Erie during the same period is, so far as the same can be ascertained, nothing. See table No. 1.

Cost of Maintenance, etc.

There has been expended on this canal during the past season, for repairs and employes, the sum of $8,319.41.

If none of the structures are required to be rebuilt within one year, nor any repairs made thereon of an extraordinary nature, and beyond such as were required last year, it is possible the expenditures for next year may not greatly exceed those of the last.

Its Value for Hydraulic Purposes

Is quite inconsiderable, from the summit level south to Binghamton, and such as it is, it can well be replaced, in case of abandonment by the waters of the Chenango river, except in such cases as are hereinafter specifically considered.

North of the summit level a few interests have grown up on the line of the canal, which use its waters for hydraulic purposes, or are somewhat dependent upon it for the transportation of its products, and the articles of its consumption; but none of them has any claim upon the State, equitable or otherwise, to perpetuate the canal for its use.

The natural streams in the valley can furnish all the power required by any of these interests, which now rely upon the waters of the canal. Should there be, however, any exception, it is believed the provisions hereinafter suggested will afford ample means and opportunity for preservation and protection.

ITS NECESSITY AS A FEEDER.

All the engineers connected with the canals insist upon retaining the various reservoirs supplying the Chenango canal, whose waters flow north as feeders for the Erie.

Your commission fully concur in this view of their necessity, and hereby recommend that all that portion of the summit level of the Chenango canal which extends between Solsville and the point at which the waters from the reservoirs are received, shall be retained as a conduit for the water; that at Solsville a permanent bulk-head shall be constructed, and the water be discharged through it into Oriskany creek, and thence conducted into the Rome level of the Erie.

Fears are entertained by various parties that great damage will be likely to be caused to the low lands bordering upon the Oriskany creek, in case *all* the water, coming from the reservoirs and destined for the Erie, is thus conducted through the channel of the Oriskany creek, in addition to the natural flowage of that stream.

It must be remembered, on the contrary, that the water supply reserved in the reservoirs will be used for the Erie only, or principally during the dry season of the year, when the natural supply of water in the creek is nearly exhausted; so that, with the addition at that season of the year of the greatest possible flowage from the reservoirs, the stream will never become so great and swollen as in the spring floods.

The interests of the various manufacturing establishments upon the line of the Oriskany, from Solsville to the Erie, will be largely enhanced by this retention of the surplus waters of the spring, and their steady flow during the dry season.

MEANS NECESSARY TO PREVENT INJURY.

Should the views of the commission herein expressed be adopted, no additional means to prevent injury to adjacent property along that portion of the summit level retained as a feeder will be required than the construction of the permanent bulk-head at Solsville.

Should the remaining portion of the canal be abandoned, no additional means will be necessary beyond what may be required to restore to their original channels such streams as may have been interrupted in its construction.

WHAT PORTION OF THE CANAL CAN BE SOLD.

Your commission cannot say that any portion of this canal can be sold for hydraulic or other purposes, but they respectfully refer to their views thereon, hereinafter set forth, in their general recommendation for the sale of portions of these canals.

WHAT DISPOSITION SHALL BE MADE OF THE CANAL.

Besides retaining the summit level as a feeder, as above suggested, and excepting such portions as may be sold under the general provisions therefor, and excepting also such as should be retained by the State for the use of the asylum at Utica, your commission recommend that the balance of this canal be abandoned as a public work to be maintained by the State.

GENERAL REMARKS APPLICABLE TO THIS CANAL.

Aside from the numerous manufacturing interests which use the waters flowing from the Eaton reservoir, and which will not be affected by the abandonment of the canal as above recommended, your commission are aware of none that has grown up on the line of the canal, which would be injured by its abandonment.

Abundant means of transportation along the whole line of the canal have been provided by private enterprise, for all the products and wants of that section of the country.

Besides the New York Central at Utica and the Erie at Binghamton, there has been built a railroad from Utica to Binghamton through or near the principal towns lying upon the canal; another from Rome to Clinton; another from Syracuse to Earlville, and another still touches at Norwich, and runs parallel with the canal for some miles above and below that village. All the manufacturing and agricultural interests along the valley of the Chenango rely upon and use almost exclusively, one or other of these railroads for carrying all their supplies and products.

Coal is furnished by railroads which own the mines, supplying this section, and the canal from necessity has ceased almost altogether to be a channel for its transportation.

Lumber, formerly the chief article transported on this canal, is no longer manufactured in the country for exportation, and thus the business of the canal, not only from point to point, and by way of exportation, but from its terminal points by way of importation, has almost entirely ceased and disappeared, as will readily appear from an inspection of the table hereto appended, of its business and expenses for the last twelve years. See table No. 6.

THE CHEMUNG CANAL.

ITS LOCATION AND CONDITION.

This canal commences at Watkins, in Schuyler county, at the head of Seneca lake, into which it empties, and extends south to the city of Elmira, a distance of twenty-three miles.

The summit level, which is reached at Horseheads, is 443½ feet above the level of Seneca lake, and is attained through forty-four locks, in a distance of about seventeen miles, and is itself about two miles long, reaching to a point just beyond the village of Horseheads. Thence the canal descends about forty-eight feet, through five locks, a distance of about four miles, to within two miles of Elmira.

The canal originally extended to Chemung river, at Elmira, but the last two miles of it have been abandoned, and are no longer used.

The canal now terminates in an open field, and is practically abandoned from this point to the summit level.

A navigable feeder, sixteen miles in length supplies this canal with water taken from the Chemung river, at Corning, by means of a dam across the river about fifteen feet high, and about 400 feet long, and discharged through it into the summit level at Horseheads.

The locks on this canal are made of wood, and many of them are in very poor condition; they leak very badly under the sides of the locks, under the floor timbers, and from the head of the wings, and some of them cannot be permanently or materially repaired, except by taking up and rebuilding the entire locks.

The bridges are all old, and some of them are unsafe. The aqueducts are greatly decayed, and are the weakest structures on the canal.

The banks of the canal are in fair condition.

The dam across the Chemung river, at Corning, and the adjacent docks are in good condition, having been extensively repaired in 1870.

The structures on this canal are, two composite lift locks, forty-eight wooden locks, one guard lock, four aqueducts, fourteen waste weirs, four culverts; one dam and bulk-head, one pier, six iron road bridges, twenty-five wooden road bridges, fifteen wooden farm bridges, one wooden change bridge, three wooden road and change bridges, thirty-eight lock-houses, and four shops and sheds.

DIRECT REVENUE.

The amount of tolls collected on this canal during the season of 1876 is $2,104.84. See table No. 2.

CONTRIBUTION TO THE SYSTEM.

The amount of tolls contributed to the Erie from this canal is not definitely ascertainable from the books of the collectors and in the Auditor's office, but it is not believed, in any degree, to approximate a sum that would justify the retention of the canal as a permanent part of the canal system.

The tolls collected at Watkins on boats and property destined from that point for the Cayuga and Seneca and the Erie, but which had not passed over this canal, have been credited, in some of the books of the Auditor's office, as contributions of this canal to the Erie. They are in no sense due to this canal, but should be credited to the Cayuga and Seneca, if to any lateral canal. The corrected credits make the actual contribution for the last year the sum of $907.92. See Table No. 2.

COST OF MAINTENANCE, ETC.

There was expended on this canal during the last season, for repairs and employes, the sum of $9,794.71. See Table 2.

The operation of this canal for the next season, for a like sum, will depend wholly upon the capacity of the structures to last through the season with ordinary repairs.

ITS VALUE FOR HYDRAULIC PURPOSES

Is undeveloped, except in very few unimportant instances, but in no case within the knowledge of the commission, in which the State is under any obligation, equitable or otherwise, to continue the supply of water.

ITS NECESSITY AS A FEEDER.

The waters from this canal are discharged into Seneca lake, thence into Cayuga and Seneca canal and after passing under the Erie canal, flow into Oswego river. Hence this canal is in no sense a feeder to the Erie.

MEANS NECESSARY TO PREVENT INJURY.

The larger portion of the water flowing through this canal is taken from the Chemung river at Corning, and if not thus diverted from its natural channel, would have flowed into the Susquehanna river.

In case of the abandonment of the canal, the dam across the Chemung river at Corning will become unnecessary for canal purposes, and all communication between the river and the canal should be closed, the water be restored to its original channel and the dam across the river be removed or the water privilege sold, in which case no special means, beyond the closing of the guard lock at Corning, will be required to prevent injury to adjacent property along the line of the canal.

WHAT PORTION OF THE CANAL CAN BE SOLD.

In the opinion of your commissioners no portion of the canal can be sold, except its structures and its land, unless it be that portion of the northern part thereof, which is upon the same level as the lake, extending from the lake to Havana.

When the supply of water shall be cut off, the canal with the above exception, will cease to be of any value whatever, unless to adjacent owners.

WHAT DISPOSITION SHALL BE MADE OF THE CANAL.

There are at Corning and Painted Post something like 25,000,000 feet of lumber, pine and hemlock, which partly depend upon this canal for means of transportation.

The mill owners and lumber dealers interested therein have cut, sawed or purchased it upon the belief of the continued existence of this canal, and have purchased it at prices which will bear the additional expense of canal navigation only, and which, it is claimed would result in considerable loss, if compelled to be transported to market upon railroads.

During the last two seasons, owing to the general depression in business, but little demand has existed for this lumber, and the stock on hand is the surplus of two or three years' production.

It is believed the whole, or nearly the whole of this accumulation can be taken to market during the next season of navigation. This commission has, therefore, deemed it just to recommend that this canal shall be opened for navigation next season, for such a length of time as may be justified under the provisions and within the limits of chapter 260 of the Laws of 1875, giving twice its tolls and contribution for its maintenance, provided the condition of the canal and its structures shall, in the spring, warrant the opening thereof, and the canal thereafter be abandoned forever, and its structures sold.

General Remarks Applicable to this Canal.

Some small industries have grown up on the line of the feeder, which use its water as a power, but the State is in no sense under obligation to continue the supply; and at Horseheads a large brick manufactory has been developed, which formerly used the canal as the chief means of transportation; but in this case as in all others along the line of this canal, the railroads contiguous to it have attracted to themselves nearly or quite all the transportation business of the country, and by affording greater facilities to forwarders, have rendered the canal, for general purposes, and particularly for coal, worthless and unused.

The Erie railroad from Elmira to Corning, the Northern Central from Elmira to Canandaigua, and the Utica, Ithaca and Elmira road crossing the canal at Horseheads, absorb most of the transportation of this section. The road from Corning to Watkins, devoted chiefly to the transportation of coal, has rendered the canal totally useless for this purpose. Another road now being built, and to be completed in the spring or summer of 1877, opening up another communication with the New York Central, will serve still further to drive away all activity from the canal.

The only business remaining for the canal in any considerable proportion, is the lumber interests above referred to, and even those will soon cease to afford business for the canal.

CROOKED LAKE CANAL.

Its Location and Condition.

The Crooked Lake canal commences at Dresden, on the western shore of Seneca lake, into which it empties, at a point about thirteen miles above the foot of the lake at Geneva, and extends westerly to the village at Penn Yan, and into Crooked lake from which it takes its waters.

It rises from Dresden to Penn Yan about 277 feet, through twenty-eight locks, in a distance of nearly eight miles.

The structures on this canal are, one stone guard lock, eleven stone lift locks, sixteen composite lift locks, six waste weirs, three dams, one receiver dam, one wooden tow-path bridge, one iron bridge, nine wooden road bridges, four piers and one storehouse. These structures are, in the main, in much better condition than those of the Chemung canal, about half the locks being comparatively new.

The banks of the canal are in fair condition.

The canal was not opened for navigation during the season of 1876, and the expense of preparing it for the season of 1877, should it be determined so to do, will in consequence thereof, be largely increased.

DIRECT REVENUE.

The amount of tolls collected on this canal during the season of 1875, the last year of its operation, is $126.09. See table No. 3.

CONTRIBUTION TO THE SYSTEM.

As was remarked under this subdivision of the Chemung canal, the amount of contribution to the Erie from this canal is not and cannot be ascertained from the books in the canal department. The Auditor has given them for the year 1875 as "unknown."

It is in proof, however, that several thousand bushels of grain were shipped over this canal in 1875, and that all of it was transported over the Erie, and its friends insist that if full credit were given for its contribution, the canal would be ascertained to be self-maintaining.

In the opinion of your commission, this view of the case is much too favorable to the canal and there is no proof in support of it.

COST OF MAINTENANCE, ETC.

There was expended on this canal during the season of 1875, for repairs and employes, the sum of $7,710.15. See table No. 3.

ITS VALUE FOR HYDRAULIC PURPOSES

Is inconsiderable, and of no consequence in the settlement of the question under consideration.

ITS NECESSITY AS A FEEDER

Is the same as that of the Chemung canal.

MEANS NECESSARY TO PREVENT INJURY.

In case of the abandonment of this canal, its waters will be restored to their original channel and be discharged through it into Seneca lake during the whole year, as they now are during the winter. No considerable expense will be required to guard against injury to adjacent property beyond providing permanent means at the summit of the canal for closing the channel against the flow of water from the lake.

WHAT PORTION OF THE CANAL CAN BE SOLD.

The remarks made under this subdivision of the Chemung canal are equally applicable to this canal,

WHAT DISPOSITION SHALL BE MADE OF THE CANAL.

Should it be determined not to open this canal for navigation for the season of 1877, your commission recommend that it be permanently closed, and its lands and structures and water privileges be sold in accordance with the suggestions hereinafter made with regard to all the canals recommended to be closed.

GENERAL REMARKS APPLICABLE TO THIS CANAL.

This canal was built to accommodate a large section of country around Crooked lake, and uniting the waters of Crooked lake with those of the Seneca, to afford this section, comprising about 300 square miles of the best farming lands of the State, the privilege of water communication with the commercial marts of the east.

Upon the shores of Crooked lake are some twelve or fourteen storehouses for the receipt of the products of this extent of country, and from which boats were loaded for the east. These storehouses will go into disuse in case of the closing of the canal, as was the case during the season of 1876.

Excepting such portions of the products of the country as may be hauled over the roads to Dresden, to be there put upon boats, the whole of its surplus will at present depend upon the facilities for transportation to market which are furnished by the Northern Central railroad, which road is supposed to be managed in the interests of the Pennsylvania railroad, and the commercial exigencies of Philadelphia.

Upon the completion of the railroad now being built from Corning to Geneva, and which will run near the village of Penn Yan, communication will again be established between this fruitful country and the commercial emporium of this State, by means of it and the New York Central railroad.

GENESEE VALLEY CANAL.

ITS LOCATION AND CONDITION.

The Genesee Valley canal commences in the city of Rochester, at the Rochester level of the Erie canal, into which it empties, and extends south to Millgrove, on the Allegany river, a distance of 114 miles.

The summit level, which commences near Black Creek Corners, in Allegany county, is about 979 feet above the Rochester level of the Erie, and is reached through ninety-seven locks, in a distance of about eighty-eight miles, and is itself about ten miles long.

From the southern extremity of the summit level, the canal descends to the Allegany river, sixty-six and three-fourths feet through seven locks and one guard lock, a distance of about sixteen miles.

There is a branch canal eleven miles in length, from Dansville, in Livingston county, to the main canal at a point about five miles above Mount Morris.

The Ischua creek feeder and the Oil creek reservoir supply the water for the summit level. Other feeders, principally from the Genesee river near Oramel, Mount Morris and Rochester, furnish abundant water for navigation.

The structures on this canal are 114 lift locks, four guard locks, six bulk-heads, nine dams, nineteen aqueducts, thirty-one waste weirs, 109 culverts, ninety-six wooden farm bridges, ninety-five wooden road bridges, eighteen iron road bridges, one iron chord bridge, seven wooden tow-path bridges, four wooden road and change bridges, one wooden foot bridge, two work-shops, thirty-eight lock-houses, and twenty watch-houses.

Many of the locks, aqueducts, and other structures are in a condition to last two or three years, with slight repairs; but some of them will need extensive repairs to fit them for another season's service. This is especially true of the aqueduct over Olean creek, one side of which must be entirely renewed, or the use of it must be abandoned. A full and truthful description of these structures will be found in the Commissioners' report for 1875.

In the opinion of your commission, all needed repairs for one year can be done within the means allowed for such purpose during the season of 1876.

DIRECT REVENUE.

The amount of tolls collected on this canal, during the season of 1876, is $14,668.50. See table No. 4.

CONTRIBUTION TO THE SYSTEM.

The amount of tolls contributed to the Erie from this canal is quite small, and for the season of 1876 reached only the sum of $513. See Table No. 4.

COST OF MAINTENANCE, ETC.

There was expended on this canal, during the past season, the sum of $23,264.10 for repairs and employes.

Should no unusual or extensive break occur requiring for repairs the outlay of an extraordinary appropriation, it is believed the expenses for operating the canal during a season of three or four months in 1877 need not exceed those of 1876.

ITS VALUE FOR HYDRAULIC PURPOSES.

While this canal could furnish, in many localities, valuable water privileges for the use of mills and other manufacturing establishments, without injury to its navigation, but few such establishments have sprung up on the line of it and none of any great importance that depends upon its operation for its own existence.

The several establishments at Mt. Morris which use the surplus water of the Genesee river, and which depend upon the maintenance of the dam across the river at that point, have no claim upon the State to maintain the dam for their use when it shall cease to be needed for the purposes of the canal.

The owners thereof claim the existence of a contract on the part of the State with them or their grantors for the perpetual maintenance of this dam and for their right to the use of the water, as a consideration for the surrender and extinguishment of certain privileges enjoyed by them prior to the construction of the canal. An inspection of the law under which the original dam was allowed to be built (chap. 181 of the Laws of 1826) and the reservation therein contained of the right of the State to resume its control over the waters of the river, which had been declared a public highway, without compensation to these parties, fully dispose of this claim. The water privileges on Ischua creek and Oil creek feeders are valuable and can be sold.

ITS NECESSITY AS A FEEDER.

The waters of this canal, unlike those of the Chenango and Black River canals, are not required as a supply to the Erie.

The reservoirs and feeders along its line were constructed for its sole use and benefit, and in case of the abandonment of the canal will be of no further use to the canal system of the State.

MEANS NECESSARY TO PREVENT INJURY.

Whenever the canal shall be permanently closed to navigation, the waters of the reservoirs should be restored to their original channels or otherwise disposed of upon a sale of the water privileges, the supply of water from the Genesee river be cut off by the closing of the various feeders leading from it, the guard lock at Mt. Morris be closed so as to prevent the flow of water above the dam into the channel below it, and such disposition be made of the dam as shall restore it to its status prior to its appropriation by the State for canal purposes. Besides the means which may be necessary for these purposes, no additional expense, it is believed, will be required to prevent injury to adjacent property.

WHAT PORTION OF THE CANAL CAN BE SOLD.

Should the canal be closed and its supply of water be cut off, it will cease to be of value to the inconsiderable interests now using it for manufacturing or other purposes; and subject to the general provisions hereinafter suggested for the sale of the canals, your commissioners are not aware that any portion of this canal could be sold, except its lands, structures and the water privileges of its reservoirs.

WHAT DISPOSITION SHALL BE MADE OF THE CANAL.

At and near Millgrove there are on hand in the various lumber yards along the banks of the canal, ready for shipment, about 22,000,000 feet of lumber, 6,000,000 shingles and 3,000,000 lath and other varieties of lumber products.

At least one-half of this quantity will be likely to be shipped over the canal in case of its continuance. In case of its discontinuance, the owners of this lumber complain that its transportation to market by rail would cost them about two dollars per thousand above that of canal transportation.

This is the surplus on hand of two or three years' production, and was manufactured in contemplation of the use of the canal as the chief means of transportation.

Considerable quantities of wood are cut along the line of the canal, in Allegany and Livingston counties, which find a market principally at Rochester by means of the canal.

The parties, owning and operating these various industrial and useful interests, claim that a fair consideration of their usefulness to the people of the State, and a due regard to the implied obligations of the State to maintain its public works should entitle them to at least eighteen months' notice of the intention of the State to close the canal; that this would cover two seasons of canal navigation, and that they require at least that length of time, with the limited capacity of the boats moving on that canal, to take their accumulated products to market.

Your commissioners, feeling the force of this appeal, and deprecating the loss that must necessarily ensue in case of immediate abandonment, have deemed it just to recommend that this canal shall be opened for the season of 1877, during a period of at least four months, and they are of the opinion that this can be done at an expense not to exceed the limits of the provisions fixed by chapter 260 of the Laws of 1875, giving twice its tolls and contribution for its maintenance; and that thereafter the canal shall be closed forever, and its lands, structures and privileges be sold as hereinafter suggested.

The Dansville branch, from the village of Dansville to and including the lower lock thereon, should be closed at once.

GENERAL REMARKS APPLICABLE TO THIS CANAL.

Facilities for railroad transportation are furnished by the Erie railroad at Portage, Cuba and Olean; by the Buffalo, New York and Philadelphia railroad at Olean, and by the Genesee Valley railroad and its connections from Dansville and Mt. Morris to Rochester. These roads have already superseded the canals in the transportation of nearly all the trade and tonnage of the country, except in the article of lumber.

BLACK RIVER CANAL.

ITS LOCATION AND CONDITION.

The Black River canal commences in the city of Rome, at what is called the Rome level of the Erie canal, into which it empties, and extends north to Lyons Falls, in Lewis county, a distance of thirty-five miles, thence navigation, by means of slack-water, through the Black river, is continued to Carthage, in Jefferson county, a distance of forty-two and a half miles, making a total distance of navigation of seventy-seven and a half miles.

The summit level, which is reached at Boonville, Oneida county, is 693 feet above the Rome level of the Erie, and is attained through seventy locks, in a distance of about twenty-three miles, and is itself about two miles long.

Thence the canal descends 389½ feet through thirty-nine locks, a distance of ten miles, to the Black river, at Lyons Falls.

The waters of South lake, North lake, Sand lake and Woodhull reservoirs, situated in what are called the north woods, are discharged into the summit level at Boonville, through a navigable feeder, ten and a half miles in length, of the same size as the canal, which receives these waters at Forestport by means of a dam eighteen and a half feet high, and 300 feet long, built across the Black river at that point. The dam gives an additional extent of at least two miles of navigation up the river, which affords excellent and extensive facilities for the shipment of lumber.

Just above lock seventy, at Boonville, all the water not required for navigation to lock thirty-four is discharged from the summit or feeder level, through a waste weir, into the Lansing kill, and at lock thirty-four, seven miles below, the greater part of this water is again returned to the canal; and at Delta, ten miles lower, another supply of water enters the canal through the Delta feeder, one mile in length.

The structures on this canal are 109 lift locks, two guard locks, six aqueducts, eleven waste weirs, twenty culverts, four stop gates, thirty-three road bridges, seven (five of iron) road and draw bridges, thirty-eight farm bridges, thirteen (one iron chord) road and change bridges, one farm and change bridge, one tow-path bridge, two private bridges, thirty-five lock-houses, twenty-one watch-houses, three bridge-houses, one shop, one shed, two dwellings, five dams, one lock and dam at Otter creek, and one on Black river.

The locks, aqueducts, bridges and other structures on this canal are in good condition, the locks being built of stone, and the aqueducts with stone abutments and piers.

No extraordinary repairs will be required on this canal to keep the same in good navigable condition, except that the north or tow-path bank of the feeder from Boonville to Forestport ought to be greatly strengthened in several places, to insure against all risk of breakage; but it is perhaps possible this may be done out of the ordinary appropriations for this canal.

Direct Revenue.

The amount of tolls collected on this canal during the season of 1876, is $11,339.28. See table No. 5.

Contribution to the System.

The amount of tolls contributed to the Erie from this canal for the past year, so far as the same can be ascertained, is $9,080.72. See table No. 5.

A large portion of the business on this canal consists of the transportation of lumber and other products of the forest, which are brought down to Rome in small boats, suitable to the prism of the canal, and at Rome or at Stanwix, a point on the Erie, two miles east of Rome, are transferred in many cases to larger boats and transported eastward over the Erie, paying tolls thereon. In all such cases no credit is given to the Black River canal for this contribution to the Erie. Nearly all the lumber brought over the Black river is taken east to Troy, Albany or New York, and as the length of the Erie from Rome to Albany is about three times the average distance for which this lumber pays toll on the Black River canal, and were the toll sheet for lumber the same on each canal, it is safe to estimate that the contribution to the Erie would be nearly if not quite three times its own direct tolls. The contribution to the Erie, on all the lumber brought to it over the Black River canal during the last season, would, if transported over it, amount to the sum of $11,879.58.

Cost of Maintenance, etc.

There has been expended on this canal for repairs and employes during the season of 1876, the sum of $35,074.13. See table No. 5.

A considerable portion of this sum, and according to the estimate of an officer of the canal competent to determine the same, the sum of $17,000 is properly chargeable to the Erie canal for the maintenance of the reservoirs and feeder for its purposes.

It is confidently believed that the expenses for maintaining this canal for some years to come need not exceed annually the amount expended upon it during the season of 1876.

The tolls collected on the canal, together with its actual contributions to the Erie, will fully meet all the expenses necessarily required for the repairs and maintenance of the canal for navigation above what may be thus expended upon it as a feeder for the Erie.

The maintenance of slack water navigation in the Black river will require the expenditure of but a small sum beyond the repair of bridges, and the maintenance of some of them by the State is of questionable propriety.

Its Value for Hydraulic Purposes

Is not brought into requisition, and that consideration will have no weight in determining the question of its abandonment or retention.

ITS NECESSITY AS A FEEDER

Is one of the main features of its value to the system, and was indeed the chief reason for its construction.

The enlargement of the Erie requiring a greater supply of water than was then attainable, it was thought it could be obtained only from the head waters of the Black river.

It has been suggested by some engineers that all the water from the reservoirs supplying this canal can be discharged from the feeder level above lock seventy into the Lansing kill, and without the use of the canal below that point be conveyed through the Lansing kill and the Mohawk into the Erie at Rome, as readily and effectually as by the present mode of using the canal as the conduit for the greater portion of this water.

This suggestion does not meet the approbation of your commission.

In the spring of 1875, when it was determined to open the Erie some days in advance of the opening of the Black River canal, an effort was made, in pursuance of this suggestion, to fill the Erie by conducting the water from the reservoirs through the Lansing kill and the Mohawk, without the use of the canal. It was found to be impossible to obtain the requisite depth of water in the Rome level in this way, and the Commissioners were at last compelled, for that purpose, to open the Black River canal as a conduit for the water, when the wants of the Erie were readily supplied.

MEANS NECESSARY TO PREVENT INJURY.

In case of the continuance of the canal for purposes of navigation as well as a feeder, no additional expense to prevent injury to adjacent property along the line of the canal and feeder is deemed necessary, beyond the sum heretofore expended for that purpose, and which is taken from the annual appropriation for the canal.

In case of the discontinuance of the canal and a resort to the Lansing kill and the Mohawk as the only channels for the water as a supply to the Erie, your commission is of the opinion that a large outlay of money will be required to prevent injury to the low lands bordering those streams.

The contribution of water from the reservoirs in the North woods is required for the Erie, not only during the dry season, as in the case of the Chenango reservoirs, but also at the opening of the canals in the spring, when the bed of the streams is already frequently full, or well swollen, and the banks are soft and easily worn away. The addition of the supply from the reservoirs, while it would be ineffectual from the wants of the Erie, as was shown in 1875, would greatly tend to injure the banks and adjacent low lands as was also shown by the experiment of 1875.

WHAT PORTION OF THE CANAL CAN BE SOLD.

In the opinion of this commission no portion of this canal should be sold by the State, and none could be, except its structures.

WHAT DISPOSITION SHALL BE MADE OF THE CANAL.

Your commission is unanimously of the opinion that this canal, with its feeders and reservoirs, should be maintained as a useful and necessary portion of the canal system of the State; but the Delta feeder should no longer be kept open for navigation, but simply as a feeder.

GENERAL REMARKS UPON THIS CANAL.

Besides its necessity as a feeder to the Erie, at the opening of navigation as well as throughout the season, alluded to above, it is believed by your commission, upon the evidence they have taken, and a personal inspection of the country whose products are tributary to the commerce of this canal, that its business will be largely increased rather than diminished in the future.

The northern forest, within profitable contiguity to the numerous streams flowing from it and emptying into the Black river, abounds in valuable timber, which gives constant employment to large numbers of laborers, and furnishes great quantities of lumber to our people in the eastern marts of trade.

These streams are so many avenues for floating logs to the large mills at their mouths, and are estimated to amount to an aggregate of at least 234 miles of water communication, upon which the tribute of at least 800,000 acres of heavily timbered land can be conveyed to market.

The larger part of this territory has no other outlet for its products than is furnished by this canal. The Utica and Black river railroad is built on the west side of the river, while the great supply of lumber lies on the east side of it, and around its head waters. The additional expenses of hauling the lumber by teams to the railroad would more than absorb all the margin in the value of the lumber over the cost of its production, and would, in case of the abandonment of the canal, greatly cripple if not effectually destroy this branch of industry.

THE RESERVOIRS.

The reservoirs in Madison county, near the summit level of the Chenango canal, the waters from which are taken, by means of feeders into the canal, and thence north into the Erie, are

	Acres.
Madison brook reservoir, covering	283
Leland's pond reservoir, covering	173
Bradley's brook reservoir, covering	134
Hatch's lake reservoir, covering	134
Kingsley's brook reservoir, covering	113
Eaton	254
Total	1,091

There are no accurate measurements of their several capacities, nor of the amount of water actually furnished to the Erie canal from them; and such is the irregularity of their banks, in one place gradually shelving out into the beds of the reservoirs, giving no depth of water for hundreds of feet from the shore, and in others falling precipitously to even the greatest depth of the reservoirs, with promontories and islands here and there interspersed, and rising to view in various places as the surface of the water is drawn down, that no actual or even approximate measurement of their capacities can be taken except by a very careful and minute system of cross-sectioning and sounding, or by actually measuring the water as it is discharged, from their fullest supply to their lowest condition.

All the officers now connected with the management of the canals, with whom we have advised, are of opinion their maintenance is necessary for the supply of water to the Erie; the official reports of former officers all assert the same necessity. In that opinion we concur, notwithstanding it is impossible to determine, with accuracy, from any data now in the possession of the department, how much they actually supply.

The amount of water supplied by the Chenango canal to the Erie at Utica, is estimated in various reports at 911 cubic feet per minute. That, however, is an estimate for the entire season of navigation, and is doubtless strictly limited to the actual supply through the canal.

In the report of the State Engineer and Surveyor for the present year, the amount of supply at Oriskany from that feeder and these reservoirs, is estimated at 6,000 cubic feet per minute; the capacity of the Oriskany itself, is estimated in various reports at 4,500 cubic feet per minute; this would reduce the supply of these reservoirs to the Oriskany, to 1,500 cubic feet per minute. The present division engineer, of the middle division of the canals in which these reservoirs are located, estimates their capacity at 2,500 cubic feet per minute, for a period of 100 days in the dryest season, commencing in June.

We think this estimate is not too large, and that if the reservoirs are properly cared for, and their waters not allowed to waste, they can be relied upon each year for that amount, for the period named by him.

The supply of water to each of these reservoirs is sufficient to fill them each year. Their whole supply can therefore be safely relied upon for use each year, whenever it is most needed, and if the Chenango canal is discontinued, the supply can be wholly devoted to the Erie for feeder purposes, and at such times and in such quantities as will best subserve its wants; and will then be of much more certain and reliable value to the Erie than heretofore it has been, when it was used for the purposes of navigation on the Chenango and not needed for the Erie.

The Black River canal reservoirs are,

Woodhull reservoir...	1,236 acres, capacity..	876,000,000 cubic feet.
North lake reservoir.	423 acres, capacity..	310,000,000 cubic feet.
South lake reservoir..	518 acres, capacity..	421,190,000 cubic feet.
Sand lake reservoir...	345 acres, capacity..	199,879,822 cubic feet.
Total..........	2,522 acres,	1,807,069,822 cubic feet.

North lake and Sand lake, it is claimed, can be filled twice a year, so that their capacity is to be doubled in order to ascertain the annual capacity of these reservoirs — and to this is to be added the contribution of the Black river below the reservoirs and above the dam, and that of all the other natural streams, during the season of navigation, in order to ascertain the actual amount of water used.

As in the case of the Chenango reservoirs, the estimate of the capacity of these reservoirs is in the opinion of your commission very unsatisfactory. The number of acres designated is their surface acreage when they are full; their depth is as various and changing as the surface of the country overflowed. No measurements have been made for the purpose of ascertaining the quantity of water in each; and the average depth upon which the above estimate of capacity is based is a mere estimate, and is not claimed to be any thing more than approximate. It is certain however that the aggregate capacity of these reservoirs is sufficient to supply the feeder from Forestport to Boonville to the extent of its capacity during the entire season of navigation.

The capacity of that feeder, according to the best authority we have, is about 16,000 cubic feet per minute.

As that feeder supplies the summit level of the canal at Boonville, a portion of its waters is used to feed that part of the canal which extends north to Lyons Falls.

This is not a very large quantity, and might, with care, be considerably reduced.

The balance of the feeder supply flows south through the canal or the Lansingkill and Mohawk into the Erie at Rome.

In the report of the State Engineer and Surveyor, for this year, this supply from the canal is estimated at 1,294 cubic feet per minute, and that from the Mohawk and Lansing kill at 11,766 cubic feet, making a total supply of 13,060 cubic feet per minute; but there have been no accurate measurements made of the quantities discharged through each channel, and we think the amount named, as flowing through the canal, is much too small.

With proper care of the reservoirs, and a better regulated system for the discharge of their waters, a much larger supply could be furnished to the Erie; but this would require an increase of the capacity of the feeder from Forestport to Boonville, which could easily be done, and with small expense compared with its importance.

The waters supplying the summit level of the Chenango canal are diversions from the Chenango river and the Susquehanna, those supplying the summit level of the Black River canal are diversions from the Black river, and ultimately the St. Lawrence.

Flowing into the Erie canal, they are finally discharged into the Hudson river, and to the extent of their supply they increase the volume of water in the Hudson, and are the more serviceable and useful to the navigation of that river, by reason of their being so devoted at the time when the Hudson is the lowest.

When the necessities of navigation in that river become, as they often do, the question of a few inches in the depth of water, the contribution, growing out of this diversion, will be regarded as of the highest importance.

Suggestions as to the Mode of Selling the Canals.

Your commission do not deem it practicable nor expedient that either of these canals should be sold in its entirety, to be used as a canal. No sufficient and reliable guarantees could be furnished to insure against damage to neighboring property, nor to provide for a permanent maintenance of the bridges and other structures, in which the interests and convenience of the people are involved, nor for proper indemnity to the State.

Possibly this might very properly be done, if in any case the land was needed for a railroad bed, and where all the aqueducts, locks and bridges would be removed, except such aqueducts as would be changed to railroad bridges; but it is not likely that either of them will be required for such purpose.

In many parts of the country portions of these canals have become necessities for the cities and villages through which they pass, for hydraulic, hygienic, or other purposes.

Other portions have been, in a very few instances, the only source of water supply for manufacturing purposes.

The undersigned, therefore, recommend that, subject to the Canal Board, and upon such terms, conditions and rules as it may adopt and prescribe, pursuant to such law as the Legislature may establish, the Superintendent of Public Works be empowered to sell at public auction, all the superstructures belonging to each of the canals hereinbefore designated for sale, and also all the real estate thereof as may not be required to be retained by the State for the uses of the Erie canal or for other State purpose, together with such water powers and privileges as can be so disposed of as to relieve the State from any care thereof in the future, and so as fully to secure the neighboring country from all damage therefrom; that all such portions of the canals, feeders and appurtenances lying within cities or villages, or immediately contiguous thereto, as may be desirable and necessary for city or village purpose, and can be so used without injury to neighboring property, be sold to such cities or villages, to such extent and upon such special terms in each case, as will best promote the interests of the State at large, and those localities in particular; due regard being had to the manufacturing or other business interests dependent thereon, and also to the necessity of enabling the said several cities and villages to control the land included within the limits thereof; and that such portions of the lands of the said canals, as pass through farms and are not required for any of the purposes above mentioned, shall be conveyed to the adjacent owners upon a relinquishment by them of all claims upon the State, for the maintenance of bridges or other structures.

Your commissioners do not deem it was intended by the act creating the commission, that they should examine into the title of the State to the property of the several canals. They have, however, thought it proper to express their understanding of the acts of the Legislature conferring power upon the State officers to take the lands and waters necessary for the construction and use of the canals, and of the decision of the courts in reference to the subject. It is beyond dispute that the State holds the property, so acquired, in fee simple, and that no part thereof will revert to the original owners upon the simple act of abandonment by the State.

The State can sell the same, and such sale will pass title to the same extent as the sale of lands in fee by citizens.

The act of the Legislature of 1817 (chap. 262, § 3), with other provisions, prescribes the mode of appraising the damages to the several owners for lands taken and appropriated, and besides other provisions contains the following: That the appraisers "shall certify their determination as to the several premises which will suffer no damage or will be benefited more than injured by or in consequence of the works aforesaid, and the canal commissioners shall pay the damage so assessed and appraised, and the *fee simple* of the premises so *appropriated shall be vested in the people of this State*," and 1 R. S., chap. 9, part 1, title 9, limited the presentation of claims for damages to one year from the time the act of 1827 became a law.

Each of the Constitutions of the State asserts the title of the State in and to the said canals. That of 1821 declares the "same shall be and remain the *property* of the State." (Sec. 10, art, 7, of Cons. of 1821.)

The provisions of the subsequent Constitutions assert the same doctrine.

It was held by the Supreme Court in the case of Rexford v. Knight (15 Barb., 627), that where land is taken and appropriated for canal purposes, upon a claim by the owner for damages acted upon by the appraisers who decide that the advantages to the owner accruing from the construction of the canal equal the loss or damage, such adjudication passes the title the same as an award of damages followed by the payment thereof.

The same doctrine was affirmed by the Court of Appeals, in 1 Kernan, 308.

The citation of authorities in these cases is elaborate and obviates the necessity of referring here to other decisions of the courts.

The State, thus being the owner of the entire title of all lands and waters so appropriated, is not liable to claims for damages to adjoining owners for abandoning the same for canal purposes.

It is true it was a part of the Constitution that these canals should remain the property of the State, and by its terms the State was forbidden to sell or otherwise dispose of them or any part of them.

It was and is likewise a part of the fundamental law that the power to repeal or modify any of the provisions of the Constitution is inherent in the people, and, in the forms and manner provided by law, can be asserted by them at any time, and no citizen can have any legal or equitable claim against the State by reason of the abandonment or sale of the canals under and by virtue of such constitutional change giving the power of sale to the Legislature of the State.

All of which is respectfully submitted.

ALBANY, *January* 17, 1877.

A. B. WALDO,
WARNER MILLER,
E. W. CHAMBERLAIN,
WILLIAM FOSTER,
Commissioners.

TESTIMONY.

UTICA, *September* 27, 1876.

Present, all the commissioners.

E. **CHAMBERLAIN** sworn, testified as follows:

Mr. Chamberlain presented to the commission a letter relating to the interest of the Utica Steam Cotton Mills in the Chenango canal, which was marked Chenango canal Exhibit, No. 1.

Examined by Commissioner WALDO:

Q. Does your company use this canal for carrying purposes? A. We have not to any great extent for the last few years, except coal; we use it to take coal from the Erie; our coal sheds are on the banks of this canal; we use it in bringing coal from the Erie canal.

Q. A distance of 1,000 feet? A. Yes, sir; that is about all that we have occasion to use it now.

Q. Is there any contract or arrangement under which you use the water? A. There was no contract, sir; it was a verbal consent by those in charge at that time, after having it explained to them that there was no waste of the water, and, in fact, seeing that we simply pumped the water up as I have stated; we pump it up in a cold state and it goes back in a warm.

Q. Any compensation paid by you to the State? A. No, sir; no further than by tolls as we used to in canal times; at the time this mill was erected we did all our business by canal.

Q. Does your letter state the amount you have invested? A. Yes, sir; a million dollars; there is a statement that, perhaps, might need a little explanation; I state that we use water from the canal both through the season of navigation and in the winter; in the winter we have had the privilege of closing the locks and putting a temporary dam in to keep the water in the level opposite our factory, and drawing the water from that level; we use it over repeatedly.

Q. How far are you from other sources of supply of water? A. Well, sir, that is a very difficult question to answer; we probably would have to bring water from the Mohawk river, at a large expense.

Q. What distance; what would be the nearest point? A. Well, sir, about a mile, I should think; I should think very near that.

Examination continued by Commissioner MILLER:

Q. You do not claim, Mr. Chamberlain, that the State is under any legal or equitable obligation to supply your company with water? A. Well, no legal obligation as I know of; perhaps when you come to the equity of it when people place buildings on the banks of the canal, they suppose that it will always be used for that purpose; that was the supposition of this corporation in erecting buildings there, that of course the canal would always remain there as a public canal; of course, we can have no legal claim on the State; if it is decided to abandon the canal, the point that I make is, whether you would recommend using this portion as a feeder or not.

Examination continued by Commissioner WALDO:

Q. If it was used as a feeder then your purposes would be answered as well as they are now? A. Yes, sir — no, not quite, because we receive coal; we should have to cart all our coal, instead of getting a portion of it around by boats, as we now do.

Q. You only get a portion of it by boats? A. We get a portion of it.

Q. What proportion? A. Well, perhaps 2,500 or 3,000 tons per year; we use between 4,000 and 5,000 tons.

Examination continued by Commissioner MILLER:

Q. Are you not getting a much larger proportion of it by rail, from year to year, than you used to? A. Yes, sir; since the southern railroads were built here we have received a good portion of it, that is, I should think about half of it, by rail; this all comes by rail, but for the matter of convenience of getting it into our sheds it is placed on boats on the Erie canal; I say *all* comes; a *portion* of it comes by rail; the facilities of our getting coal while the canal is open are from two different directions; we get our coal from the east, then it comes by canal through.

Examination continued by Commissioner WALDO:

Q. This coal is brought mostly over roads lying contiguous to this canal? A. Most of the coal now, sir, comes by the way of Binghamton, over those roads.

Q. Over what is called the Utica, Clinton and Binghamton road? A. Well, the Delaware and Lackawanna.

Examination continued by Commissioner MILLER:

Q. How far from Utica does this feeder come into the Chenango canal — at what point? A. Seven miles, I think — oh, the feeder of the canal; I thought you meant the outlet into the Erie; that is nineteen miles; as I understand, it would have to come down the channel of the canal to Oriskany Falls, some five or six miles from here, any way.

Examination continued by Commissioner FOSTER:

Q. If the canal was retained for navigable purposes, Mr. Chamberlain, as far as Hamilton or Clinton, it would have no serious effect upon your business would it — the abandonment of the rest of the canal? A. Oh, no, sir.

Q. You do not use the canal for transporting coal now, I suppose, any further than from the Erie up to your establishment? A. That is all; there are times when coal can be brought from the east here at a better advantage than getting it the other way; we are now placed so that we can take advantage of either market either way; of course we would have but one way if this canal is cut of.

Q. You do not use the canal, I suppose, for transporting goods at all for your manufactory? A. No, sir, very rarely; I say no; we use the Erie canal to some extent.

Q. I refer to the Chenango canal? A. Oh, no, sir; nothing aside from coal.

Examination continued by Mr. A. C. Miller:

Q. Mr. Chamberlain, when were your mills built? A. Well, the first in 1849.

Q. If the Chenango canal had not been located at that point would the location of your mills probably have been in the same place they are now? A. No, sir, I think not; I think the mills were located there for the very reason that the canal was there, and we could have this use of the water without causing any damage to the State in any way.

Q. Now, if the canal is discontinued, not only for the purposes of navigation, but also as a feeder, how would the interests of your mill be affected with reference to supplying it with coal? A. Well, we, of course, would not have two ways of supply, as we now have.

Q. Competition would be cut off? A. Competition would be cut off; that is, we could not get our coal up to our mills from the east.

By Commissioner Waldo:

Q. You mean only competition from the Erie canal to your mills? A. That is all.

By Mr. A. C. Miller:

Q. When you get your coal by canal you would then get it over the Erie canal from Albany, would you not? A. Yes, sir; or from below Albany — Newburg.

After some further informal discussion, the commission adjourned.

Eaton, *September* 28, 1876.

Henry C. Howe sworn, testified as follows:

Examined by Commissioner Waldo:

Q. You reside at West Eaton? A. Yes, sir.

Q. On the line of the outlet of the Eaton reservoir? A. Yes, sir.

Q. Are you engaged in manufacturing? A. Yes, sir; I am.

Q. What kind of manufacturing? Cassimeres or woolen goods.

Q. How long have you been at that place? A. I have been in West Eaton about six years last July.

Q. You are how far from the reservoir? A.. I should judge about a mile.

Q. How many men do you employ? A. I have about sixty in my employ now; that is, in all.

Q. You take water from the feeder or from the outlet of this reservoir? A. Yes, sir.

Q. Do you have any written contract with the State in reference to it? A. I have none.

Q. Any one from whom you purchased do you understand to have had one? A. I don't know that they did.

Q. You have a dam across this feeder or outlet? A. Across the stream below.

Q. Constructed by the persons owning your mill, or those whom you bought of? A. Former owners.

Q. That was not constructed by the State? A. No, sir.

By Commissioner Chamberlain:

Q. Your mill is now in operation? A. Yes, sir.

By Commissioner Waldo (continuing):

Q. The water, of course, after it is used in your mill, goes back into the feeder again? A. Yes, sir; goes back into the stream, not into the reservoir.

Q. We term this stream a "feeder?" A. Yes.

Q. Starting from the reservoir and coming this way, how many manufactories are there — how many dams, for instance; state first how many dams? A. Down to this place (Eaton)?

Q. Yes; the first mill above you is a grist-mill, isn't it? A. There are two dams above me; there is one for a grist-mill and one for a saw-mill.

By Commissioner Chamberlain:

Q. Both supplied from one dam? A. No, sir.

By Commissioner Foster:

Q. One is a low dam, isn't it? A. Yes, sir; in fact I have not been there, but I have been told it was a low dam; it wouldn't need any thing high to turn it into the ditch that carries water for the saw-mill.

By Commissioner Waldo (continuing):

Q. First is a grist-mill; then a saw-mill? A. Yes, sir; then my factory; then Mr. Barnes', below.

Q. Below you first is a factory owned by whom? A. By Mr. Barnes.

Q. Is that running? A. Yes, sir.

Q. Then next below that? A. The Alder brook mill.

Q. Next below that? A. A grist-mill owned by Mr. Hatch.

Q. Next below that? A. The Pierceville factory, I believe.

Q You refer to this cotton factory up here? A. Yes, sir; and there is a saw-mill there; all take water from one dam; a saw-mill and a planing-mill and water pipe factory.

Q. Below that is there any thing? A. The next is a scythe factory.

Q. And others, as you come along down? A. Mr. Gardner Morse's saw-mill and grist-mill and planing-mill.

Q. Any more? A. There is more down below here (Eaton); I am not as well acquainted with these matters as somebody else would be.

Q. Take the saw-mill and grist-mill, the first ones from the reservoir; describe the building; it is a wooden building, isn't it? A. Yes, sir.

Q. How much of a fall has it? A. That I don't know, sir; I should guess about sixteen feet.

Q. What would you estimate the building and appurtenances to be worth — what is the capital of it? A. I would not be a proper hand to appraise it; I am not acquainted with that kind of machinery.

Q. How many men does it employ? A. I think they have about three; three or four a portion, of the year, and a portion of the year one or two; never less than two.

By Commissioner Chamberlain:

Q. Do you get any of your supplies by the Chenango canal? A. No, sir.

By Commissioner Waldo (continuing):

Q. How much do you consider the capital in your property there? A. It is pretty hard answering that question; the property cost, I think, somewhere over $100,000 to build.

Q. It would hardly sell for that now? A. No, sir; nor half of it; not over that.

Q. I would like to have your opinion of the value of your buildings and machinery, irrespective of your water power? A. Perhaps you are aware that the manufacturing interest has been very much depressed, and it is not salable, and would not fetch a very large price; as I said before, it is property that cost over $100,000.

By Commissioner Foster:

Q. What would you consider it worth as an investment for business? A. Well, judging from the appearance of business now, it looks as though it might be worth something; for the last three or four years it has not paid any thing; this property, where I am, some three years ago, was sold for $40,000, and I guess business was as dull then as it is now.

By Commissioner Waldo (continuing):

Q. What do you think the buildings could be constructed for now? A. Well, there is a good many houses there that belong to the works; I presume it would cost $25,000 to put up the buildings.

Q. That includes the dwelling-houses belonging to that property? A. Yes, sir.

Q. Those dwelling-houses are upon the street? A. On the two streets there, on each side of the pond.

Q. How many dwelling-houses? A. Some fourteen, I think.

Q. All occupied now? A. Yes, sir.

Q. Has this mill been running all the time? A. Pretty much; I guess it has not stopped over a month or two since it was built.

Q. What amount of wool do you consume in a year? A. About 800 pounds a day for the last year.

Q. How many yards of cloth do you make in a year? A. I think we average about 500 yards a day the year through.

Q. Do you run all the time during the year? A. Yes, sir.

By Commissioner CHAMBERLAIN:

Q. You ship no manufactured articles by canal? A. No, sir.

By a SPECTATOR:

Q. Do you get some coal by canal? A. No, sir; I have not for the last two years; previous to that we used to get coal.

By Commissioner WALDO (continuing):

Q. Going to the next mill below you; the Barnes mill? A. Mr. Barnes is here, and perhaps you had better question him as to that.

Q. Well, the next mill below that is unoccupied? A. It is unoccupied at present.

Q. The second mill below Mr. Barnes'? A. That is occupied; that is a grist-mill.

Q. It is an ordinary custom grist-mill, I suppose, for the locality? A. I should think so; the proprietor of that mill is here, Mr. Hatch.

Q. The next below that of Mr. Hatch? A. Well, a planing-mill and saw-mill.

Q. Is that running? A. That is running.

Q. That is whose mill? A. Mr. Copley, I believe, owns the planing-mill.

Q. Is he here? A. Yes, sir; Mr. Townsend owns the saw-mill.

Q. Is Mr. Townsend here, also? A. I believe so.

Q. Well, next below that; is that the cotton factory? A. The next below that is the cotton factory.

Q. That is idle now? A. That is idle.

Q. How long has it been idle? A. I think it has not run any for the last two years and over.

Q. All these mills take their water in the same way, I suppose? A. Yes, sir.

Q. Now, next below that? A. The next below that is the scythe factory; that is idle, I believe, at present.

Q. How long has that been idle? A. Mr. Morse can answer that question.

Mr. **Morse**—About ten years.

The **Witness**—Still there is a water privilege there that may be valuable yet if business should revive.

Q. Next below the scythe factory? A. That is Mr. Morse's grist-mill and saw-mill and water pipe factory.

Q. Is there any thing you wish to suggest that we have not asked you about? A. No, sir; I don't think of any thing; it is very important to us that this reservoir is kept up; it is life or death with us.

By Commissioner **Chamberlain**:

Q. What, in your opinion, is that property worth, in case the Legislature should conclude to dispose of it to private individuals?

By Commissioner **Foster**:

Q. All the privileges of the State in the control of that water? A. I should not consider it a very good investment to buy, from the fact that the most of these privileges were built before the reservoir was, and had the first right.

By Commissioner **Waldo**:

Q. Suppose this reservoir was discontinued, what difference would it make in the value of your property, if any; wouldn't you be able, with what resources you have within yourselves, to have all the benefits you have now? A. There is times when the natural stream would not give us sufficient quantity of water to run our mills fully, but what proportion of the year that would be, I am not able to say.

Q. But quite a portion of the year? A. I think for the last year there has not been much of the time but what the natural stream would supply us.

Q. With what resources you had from your pond? A. Yes, sir; still, there is some years it has been much dryer, and for a large portion of the year we would be dependent on the reservoir.

Gardner Morse sworn, testified as follows:

Examined by Commissioner **Waldo**:

Q. You reside in West Eaton? A. No, sir; in this village—Eaton.

Q. How long have you lived in this locality? A. I guess about half a century; I was born in this village.

Q. Do you own some mill property on this outlet of the reservoir? A. Yes, sir.

Q. We have termed it the "feeder" as it is appropriated for that purpose? A. Yes.

Q. What is your property? A. This scythe factory that has been mentioned, grist-mill, saw-mill and planing-mill, and water pipe factory.

Q. How far is that from the reservoir? A. About five miles, we always call it.

Q. What portion of your water power are you using now? A. Probably not one-fifth part of the capacity of the power; there was formerly a large distillery there; when my father died the property came into my hands, and I have been just keeping it alive; that is about all; there is a capacity larger than either of the powers above.

Q. What are you actually using now; what of these industries are you pursuing? A. Grist-mill, saw-mill, planing-mill and water pipe factory.

Q. What do you use the grist-mill for — ordinary custom business? A. Yes, sir.

Q. You do not buy grain and pursue the milling business? A. No, sir; nothing but simply a custom mill.

Q. What number of men do you employ in that mill? A. There are two the most of the time.

Q. A portion of the time only one and a portion of the time more? A. A portion of the time two; perhaps not two men all the time, but it is the business of two men.

Q. What is that grist-mill — a wood building? A. Wood building.

Q. The next is the saw-mill and planing-mill? A. Yes, sir.

Q. Is that running? A. Yes, sir.

Q. The year round? A. Well, perhaps I should put them together, and say that the other buildings employ two men the year round, the others connected.

Q. The saw-mill, grist-mill and planing-mill altogether employ two men? A. Yes, sir.

Q. The saw-mill is used for custom work only? A. Yes, sir.

Q. The planing-mill? A. For custom work; the lumber yard in the same way.

Q. Do you make manufactured articles to sell — to send away? A. Water pipe.

Q. I mean in this saw-mill and planing-mill? A. No, sir.

Q. It is not a sash and blind factory, or any thing of that kind? A. No, sir.

By Commissioner CHAMBERLAIN:

Q. I suppose this water pipe is made in the factory? A. It is all connected.

By Commissioner WALDO (continuing):

Q. The water pipe factory and saw-mill and grist-mill, and all these mills employ four men? A. Yes, sir.

Q. These are all supplied by water from one flume? A. Yes, sir; one dam and one flume.

Q. The dam is sustained by you? A. Yes, sir; it was built by my father.

Q. Is there any written contract between you and the State in reference to the use of those waters? A. No, sir; my grandfather came on to this ground about 1797, I think, and the property has been continued in the family since.

Q. The State, I suppose, made some arrangement with you as to the privilege? A. None whatever; there is none that I have ever known of; the reservoir was built in my father's time, about forty years ago, and I have no knowledge of any contract or agreement.

Q. The water that you take from this feeder goes right back into the feeder after you have used it? A. Yes, sir.

By Commissioner CHAMBERLAIN:

Q. Do you get any supplies by way of the Chenango canal? A. No, sir.

Q. Or ship any thing by way of the Chenango canal? A. No, sir; I should say this: the question has been asked, what these powers would be worth if that reservoir was abandoned; to go back to the natural stream, I should consider our water powers worthless, for the reason that as the country becomes cleared up the streams become much smaller; I could cite two or three streams in this vicinity where, twenty-five years ago were good powers, that to-day are worthless; at Pratt's Hollow, in this town, a mile and a half north of here, where there was quite a large factory at one time, the water power is entirely gone, except for only a small portion of the year; I should consider these powers as simply valueless without the reservoir.

By Commissioner WALDO (continuing):

Q. Your dam would not answer your purposes? A. No, sir; not to justify any person in making any investment for machinery and putting in capital; there are portions of the season when there would be a very limited supply of water — during the dry season and during the cold weather, winters.

Q. That estimate would apply to all these mills? A. I should apply it to all of them.

Q. Well, would it apply to an ordinary custom grist-mill, or an ordinary custom saw-mill? A. Yes, sir.

Q. Wouldn't there be water power enough for these grist-mills and saw-mills along this stream? A. No, sir; I think not, a large portion of the year; I should say not; and such establishments as Mr. Howe's and Mr. Barnes', and all these manufactories above, if they cannot draw the full number of hours and 365 days of the year, they would, of course, invest somewhere else where they could get permanent water power or steam power.

Q. They are enabled to do this by this reservoir? A. Yes, sir; it holds back our waters during the year; this reservoir was about the first that was built, and it was built very much more permanently than any of the other ones; the estimates for the amount of water was made upon German statistics, and when they came to fill it, with the same area of land, it furnished a greater amount of water than was anticipated; they made a fortunate mistake for us; the pipes that were there then were much smaller than those that have been put in since, so that they have been compelled to furnish the water more evenly through the season, which made our water power very much better than it would have been if the pipes had been made larger; the reservoir was very permanently built, and during the forty years that it has been built, with one exception, I think about six years ago, for a period of perhaps two months, when we hadn't water enough to start our wheels, none of the time has there been any day of any week, but what there has been sufficient water to run during the dryest time, and save us from floods; I speak of this in a general way.

By Commissioner CHAMBERLAIN:

Q. These manufacturing interests have been built up here since the construction of that reservoir? A. Yes, sir; as they are built; on the property I speak of there was a dam about 1802, and the streams above; I don't now think of a single case but what the dams were there before the reservoir was built, but of course they have changed forms now.

By Commissioner WALDO:

Q. Many of them have been rebuilt, I suppose? A. Yes, sir; been rebuilt and enlarged.

By Commissioner CHAMBERLAIN:

Q. Were there any woolen manufactories on this stream before this reservoir was built? A. There was a small cotton-mill at Pierceville; I had forgotten that.

By Commissioner WALDO:

Q. Were there as many dams do you think from here up to the reservoir previous to the construction of the reservoir, as there are now? A. About the same; I don't now think of any place but what there was as many; I should say there were.

By Commissioner FOSTER:

Q. So far as you are aware of, there never was any cession made to any of the owners of this power by the State? A. No, sir; the State never paid any damages, nor was there ever any cession of right.

By Commissioner WALDO (continuing):

Q. We desire to ask you the value of this property: for instance, take that first mill; you can approximate that? A. Five thousand dollars, to give it off in a guess way; Hopkins & Co.

Q. That is a wooden building? A. Yes, sir.

Q. The next is what? A. The next is a saw-mill, owned by Darrow and Son.

Q. What do you estimate that? A. Two thousand dollars.

Q. The next is the woolen factory which we have had an estimate upon? A. Yes, sir.

Q. The next is Mr. Barnes' factory; how much is that? A. About $30,000.

Q. How many men does Mr. Barnes employ? A. About forty.

Q. All the time, the year round? A. Yes, sir; men and women.

Q. What is the product of that mill? A. About 90,000 yards a year.

Q. The next below that is what? A. The Alder Brook mill; it originally cost $60,000, or thereabouts.

Q. The mill and machinery? A. Yes, sir; besides the dwellings and outside fixtures.

Q. It has been idle for how long? A. Well, about four years.

Q. They have taken the machinery out of that mill, I suppose? A. They have taken out a part of it; they propose to sell it all out.

Q. The next one below? A. It is Mr. Hatch's mill.

Q. How much is it worth — the value of the investment there for business purposes, aside from the mere value of the water power? A. About $5,000.

Q. That building is what? A. Wooden building.

Q. And used for what? A. Grist-mill.

Q. Solely? A. Solely.

Q. That is the one that is being repaired? A. It is the one with part of one end taken off; yellow building.

Q. Well, the next one? A. Mr. Copeley's planing-mill; there are two other water powers connected with that; put them all in together — planing-mill, cotton factory and saw-mill; they all use water from the same flume — Mr. Copeley's property is worth about $800, as the assessors say; and the saw-mill $800, and the cotton factory cost about $60,000.

Q. How long since it has been in use — the cotton factory? A. Three years.

Q. Do you know whether there is any machinery in that? A. No, sir; the machinery is nearly all out.

Q. What property is that called? A. It is the Pierceville cotton mills; the Eaton cotton mills.

Q. Well, what would you estimate it now — the property there? A. It is a hard question to answer; it would be ridiculously low at $10,000, if a man wanted to use it; but if he did not want to use it, it wouldn't be worth ten cents.

Q. The houses are unoccupied? A. Yes, sir; there is forty-five acres of land connected with it, with buildings, stores, etc.; the property has been sold, within a short time, for about $20,000.

Q. How long ago? A. Within three years, I think.

Q. What is the property assessed at? A. Forty-five hundred dollars.

Q. What is the next mill below that? A. The scythe factory property I would estimate at $5,000.

Q. Is that unoccupied? A. Yes, sir.

Q. Is that your property? A. Yes, sir.

Q. How long since that has been occupied? A. About ten years.

Q. That is what kind of a building? A. One story stone building.

Q. A low building. A. Yes, sir.

Q. Next after the scythe factory? A. These buildings of mine here in the village.

Q. Those we have got; next below your buildings? A. Next below my buildings is a stone building belonging to Mr. Medbury; I should estimate the property, with the machinery, at from $4,000 to $7,000.

Q. What is it used for? A. Furniture establishment.

Q. Manufacturing furniture? A. Yes, sir.

Q. It is now being used? A. Yes, sir; seven men are employed.

Q. Has it been in operation for the last three or four or five years? A. Yes, sir; constantly.

Q. Make furniture to sell? A. Yes, sir.

Q. Where is it disposed of? A. Sell some here, and some in Syracuse, and some in Utica; different places.

Q. How are the materials transported? A. Transported on the cars.

Q. Next below that? A. Next below that would be Gilbert's wagon shop; then Mr. Moreton has a furniture shop adjoining; there are three; Mr. Moreton, Mr. Gilbert and Mr. Booth, drawing from one pond, and a tannery.

Q. They all use the same flume? A. Yes, sir.

Q. Well, give your estimate of the value? A. I should put it at $3,000 for Mr. Charles Gilbert's wagon shop; of course what portion of it would be assessable to the water power I don't know, but that would be the value of the building.

Q. Mr. Booth's? A. About $1,000; that is a wagon shop.

Q. For ordinary repairs, or for building new wagons? A. For ordinary repairs; Mr. Gilbert is manufacturing for sale; Mr. Moreton is assessed $900; his is a furniture establishment.

Q. Manufacturing for sale? A. Yes, sir; cheap enough at $1,000; $1,500 with the machinery in.

Q. Does Mr. Booth, or the others, use this canal for transporting materials? A. No, sir; none of these gentlemen use this canal for the purpose of the transportation of either the materials they buy, or what is sold.

Q. From there to the inlet at the canal? A. There are no powers used below; there is a power, but it is unoccupied; the dam is down; it could hardly be counted in; it is just below the village, but it could hardly be counted in.

By Commissioner Chamberlain:

Q. What, in your opinion, would be the value of this reservoir for private purposes in case the State should throw up all these public improvements, that is, these lateral canals? A. I could not answer the question; it would depend, of course, upon the times; if manufacturing was as hard as it has been for the last three years they could not afford to pay any thing, because they can hardly live any way; if times were brisk, so that manufacturing was being sought for, it would sell for a large sum, rather than to be abandoned.

Q. These water powers now in use, and those that you have testified to, are not the only ones that could exist on this line? A. No, sir; more could be used.

Q. Probably double the number? A. No, sir; I should not say double the number; about one-third more, perhaps.

Q. The capacity of this feeder would furnish more? A. Yes, sir; upon my own property I could double the capacity that I have now.

Q. Well, upon the entire extent what do you think; wouldn't it be more than one-third? A. I should think that we could add a third more machinery.

Q. What do you consider the power; you have some way of rating it so as to give the capacity of your power? A. Yes; Alder Brook factory has carried six sets of machinery; that would be sixty-horse power, we would say; my own property I could make a hundred-horse power; I could make mine a better one than there is on the stream; I have twenty-six feet of head and fall, and upon my own premises, at an expense of $1,000; I could add four feet more, which would double the capacity in horse power.

Q. On all this distance the expense of building dams upon this stream is trifling, comparatively is it not? A. Yes, sir.

Q. There are places where you can build them? A. Yes, sir; narrow, and being so near the reservoir we are safe from floods, so strong dams are not needed.

Q. Now, is there any thing else that you think of that you desire to state to us? A. Nothing more.

Examination continued by Commissioner FOSTER:

Q. Mr. Morse, in case the State should abandon that reservoir and restore the stream to its natural capacity, what would the land be worth for agricultural purposes, which is now flowed by the reservoir, per acre? A. Well, I don't know what condition it would be left in; say, for instance, twenty-five dollars an acre; I don't know as it would come in this connection, but in speaking of the value to the State as a feeder to the Erie, I should say that on this high range here we receive a great deal of water, and, as I stated, the amount accumulated was much larger than the statistics called for, and we very rarely have any drouth here; always getting more or less rains during the summer; and another point that occurs to me is this, that these reservoirs could all be used as feeders to the Erie canal at a very trifling expense; I think, if I am correct, that all these reservoirs on this table land here draw northerly, except one pond, known as the Woodman's pond, over east; all the others can be drawn toward the north, and with the maintenance of a short piece of canal turning all these streams into the Oriskany at Solsville, two miles below the summit, and then drawing into the Erie at Oriskany, I think all this water can be utilized at a very small expense to the State of maintenance and care.

Examination continued by Commissioner Waldo:

Q. You mean without using the canal as a feeder? A. Yes, sir, if you abandon the canal, that all these reservoirs can be utilized at a very small cost of maintenance and care.

Q. By feeding the Erie canal at Oriskany? A. Yes, sir, by abandoning all the canal from Solsville to Utica, and all South, leaving only about a mile or two miles of the canal here at the summit to be used as a feeder; all the water which is now drawn through both north and south, excepting Woodman's pond, which is too low, could be used.

By Commissioner Chamberlain:

Q. This Woodman's pond, you think, goes south? A. Yes, sir; that is too low; the water from the Madison reservoir runs in a ditch, and is carried over the outlet of Woodman's pond.

By Commissioner Waldo (continuing):

Q. Where does that empty into the canal? A. Just below the pond a few rods.

Q. Below one or two of those locks? A. Yes, sir; it feeds into the level that reaches to Hamilton village, below, perhaps, two locks; I think I am correct in the fact that that pond flows southerly; the Erie would then receive more water than it receives now; besides, a great deal of water is wasted the other way, which ought to be drawn north.

Q. That pond, then, or reservoir, or whatever you term it, is not of any use to the Erie canal as a feeder? A. No, sir, only as the Chenango canal is maintained south.

Q. Of course, if the Chenango canal was discontinued, that would be discontinued? A. Yes, sir; speaking in a general way, I think I express the general sentiment of the people here when I say that we care little or nothing for the Chenango canal only as a competitor with the railroads in the coal trade; our interest is entirely with the reservoir; if the reservoirs are abandoned it ruins us; the reservoir makes the business of this stream, because it is reliable; one great reason why we made great efforts to get this Midland road was hoping that our undeveloped water powers would come into play here and become more valuable; but times have changed and become hard, but we make allowances for that; we have got invaluable powers—such as in the eastern States would be invaluable, as you might say.

Q. You have got two or three railroads within what distance? A. The Midland road is about three-quarters of a mile from this village (Eaton); the next road, the nearest point is three miles—that is the Utica branch of the Delaware and Lackawanna road; we go ten miles to the main branch of the Delaware and Lackawanna road at Earlville; that will probably be brought within three or five miles of us by the Utica branch; we go westerly to the Syracuse and Chenango Valley road, about five miles down to Georgetown; we are about twenty miles south of the Central road.

By Commissioner **Foster**:

Q. Which is the most accessible point to reach the Syracuse and Chenango Valley road? A. Go to Georgetown from here; about two miles south of Georgetown village.

By Commissioner **Waldo**:

Q. Within eight miles; that gives you four railroads? A. Yes, sir.

By Commissioner **Chamberlain**:

Q. You receive no coal by canal? A. Well, only small amounts; Mr. Howe, I supposed, had been shipping coal, but I understand he has not; I guess, perhaps, none; I don't think we could take the coal trade into consideration, for the same men that own the coal mines own the road; the only way we can get coal is going to Binghamton and buying of other persons; they have had the control of that pretty well.

Examination continued by Commissioner **Foster**:

Q. So far as the Erie railroad is concerned, can't you get supplies of coal from Binghamton from other sources than these companies which control these roads here? A. Well, I have been informed that the agents of these roads have the control of the boatmen so that they dare not ship single cargoes.

Q. The agents of the road control the boatmen on the Chenango canal? A. Yes, sir; that is to say, if they ship a boat load of coal to me, the company would give them no more employment — the railroad company; and the railroad companies own the coal and mines.

Q. What I want to get at is this: the Erie railroad is not subject to the dictation of the Delaware and Lackawanna, or the Delaware and Hudson company? A. No, sir.

Q. Now, are there not other sources of obtaining supplies of coal than from the Delaware and Hudson or the Delaware and Lackawanna companies? A. Well, I think not; if a branch road is put in between Smith's Valley and Cortland and Ithaca, they are opening up there a new set of mines; coal which never has come this way; all the coal we have is from the Delaware and Lackawanna, or Delaware and Hudson.

Examination continued by Commissioner **Waldo**:

Q. The coal is almost entirely transported over the roads? A. Yes, sir.

Q. The reports of the departments at Albany give us all that information? A. Yes, sir; that is the best information; the amount of tolls received tells all that more accurately than we can; nothing more occurs to me than I have stated.

E. J. Hatch, without being sworn, asked leave to make a suggestion, as follows:

Gentlemen, I have a suggestion I would like to offer to you, that is, in relation to these lateral canals; that is, let the State sell the different levels on the Chenango canal for water power. In reference to the level south of the summit level, there is Woodman's pond which would make a reservoir for all the levels south. Then the first level, that ends in Hamilton village, and the next level below it would make two water powers, or one good sized water power, and would fetch a good price as there would be a competition between some men who wanted to buy those and the man that owns a grist-mill there and only has the surplus water.

By Commissioner Waldo:

Q. You think all along on the line of the Chenango, these levels could be sold for water power? A. I think they could, especially where they go into a village, and I have mentioned two or three; the two in Hamilton village, and the long level that ends at Middleport, would be valuable as there is a steam saw-mill there and a small village; and one man said he would give $500 for the level that ends in Earlville.

Q. You are engaged in manufacturing? A. No, sir; I am a miller.

Q. You are interested in one of these water powers on this outlet of the Eaton reservoir? A. Yes, sir; and owing to a deficiency of water power in the Chenango valley, wherever a lock is in a village, that level would be valuable for water power.

By Commissioner Foster:

Q. How many feeders are there from the Chenango river, on this canal, between here and Oxford? A. I couldn't say; then the State, from the summit level of the Chenango north, could use it as a feeder clear down to Utica, and sell all the locks that way for a water privilege, wherever they could, and still avail themselves of the use of the water; and they could rent the water in some cases, perhaps where a man could take it out and return it again to the channel.

By Commissioner Waldo:

Q. How high above Hamilton village is the Madison reservoir? A. It is about twenty-five or fifty feet — the foot of the reservoir.

Q. Could not that Madison reservoir be used very usefully for a supply of water to Hamilton village? A. Yes, sir.

Q. In addition to that estimate of twenty-five or fifty feet, would be the hight of the embankment? A. Yes, sir.

Adjourned.

NORWICH, *September* 29, 1876.

B. B. ANDREWS sworn, testified as follows:

Examined by Commissioner WALDO:

Q. You reside in Norwich? A. Yes, sir.

Q. You are in business here? A. Yes, sir.

Q. How long have you been a resident of this locality? A. Since 1829.

Q. What is your business? A. I am connected with a blast furnace.

Q. Manufactory of pig iron? A. Yes, sir.

Q. Where is that situated? A. On the canal.

Q. Immediately on the line of the canal? A. Yes, sir.

Q. In the village of Norwich? A. Yes, sir.

Q. How large a property have you there — how many acres, or what extent? A. There is three acres; about eighteen or twenty rods on the canal.

Q. You have one or two blast furnaces? A. One.

Q. Manufacture pig iron by charcoal? A. Yes, sir.

Q. What was your product of pig iron when your furnace was in blast? A. Well, from 1,200 to 2,500 tons per year.

Q. From seven to ten tons per day? A. Well, about seven to eight tons, say; some days it would go from seven to nine.

Q. When was your furnace erected? A. Erected in 1856.

Q. Is it in blast now? A. No, sir.

Q. When did it go out? A. Two years ago last spring.

Q. Are you arranging for going into blast? A. Not at present.

Q. Your coal was obtained in this vicinity? A. Yes, sir.

Q. Was not transported by any means of conveyance except by wagon? A. No, sir.

Q. Your ores were obtained from where? A. A portion in Salisbury —

Q. They were obtained from other places than this immediate locality? A. Yes, sir; from Millerton and Amenia station; also from Carthage, Jefferson county; we had ores transported from Lake Superior; we have had Port Henry ores.

Q. Did you bring those ores over the Chenango canal? A. Principally, until the last blast we got ores from Jefferson county; that come by rail.

Q. When did your last blast commence? A. Three years ago this fall; three years now; commenced in July, 1872.

Q. Until the summer of 1872 you had brought most of these ores over the Chenango canal? A. Yes, sir.

Q. After your blast commenced in the summer of 1872, you brought your ores from Carthage, in Jefferson county, mostly? A. Yes, sir.

Q. And those were brought over the railroad entirely? A. Yes, sir.

Q. Did you use the canal for transporting any ores? A. Yes, sir; a portion of the ore that we used in the last blast came over the canal; you see we mixed our ores.

Q. What ratable portion of the ores probably came over the Chenango canal? A. Probably one-third; all of our limestone came over the canal.

Q. Where from? A. Oriskany Falls.

Q. Your iron, which you sent away, how was that transported? A. We used to send it over the canal.

Q. Up to what time? A. Most all of it, until the last blast, and that we have stored here and send portions of it at a time.

Q. That you send how? A. Send it by rail, because they could store it here cheaper than in Buffalo.

Q. Your power is a steam power? A. Yes, sir.

Q. Do you use the canal for any purposes? A. We use the water from the canal for the supply of the furnace and machinery, and engine.

Q. Do you use it for power to raise your ore and coal up to the top of the furnace? No, sir.

Q. What is the capital invested in your furnace? A. The furnace itself cost about $20,000 to $25,000; $25,000.

Q. You mean the furnace, machinery and appurtenances? A. Yes, sir.

Q. Exclusive of the real estate? A. No; the real estate and all.

By Commissioner FOSTER:

Q. Do you use charcoal exclusively? A. Yes, sir.

By Mr. WALTER COOK:

Q. If the canal had been in good navigable order would you have sent your pig iron by railroad? A. Well, if the boats had been running regularly, so that we could have sent it by canal, I think we should have sent it by canal; they were not.

Examination continued by Commissioner WALDO:

Q. You ship your iron to Buffalo, you say; what is the difference in the expense of shipping by canal or railroad, if any? A. There is no difference where we have to reship.

Q. That is, you could send it by rail from here to Buffalo as cheap as you could send it by canal? A. Yes, sir; where we had to reship it.

Q. The expense would be the same? A. Just about.

By Mr. WALTER COOK:

Q. What do you mean by reshipping it? A. When Mr. Smith here used to send boats to Buffalo, and they used to bring in their flour and grain, and every thing of that kind, we would furnish them with iron to carry, and they would have no reloading or re shipping.

Q. Suppose you didn't have to reship, what would be the difference in transportation of your iron between here and Buffalo? A. Well, it would be about a dollar a ton difference.

C. J. **Brown** sworn, testified as follows:

Examined by Commissioner **Waldo**.

Q. You reside in Norwich? A. North Norwich.

Q. In the town of Norwich? A. Yes, sir; about four miles north of the village.

Q. What is your vocation? A. Well, milling.

Q. What kind of milling? A. Grist-mill and saw-mill.

Q. Custom work? A. Yes; custom work and some of my own work.

Q. How large a mill? A. There are two mills together — quite a large mill.

Q. The saw-mill and grist-mill? A. The saw-mill, and the grist-mill separate.

Q. Two saw-mills together? A. Yes, sir; it is a double mill — upright saw and circular saw.

Q. How many men do you employ in your establishment? A. Well, we employ two besides myself; sometimes more.

Q. The saw-mill for custom business? A. Well, mostly.

Q. Manufacture any lumber to sell? A. Yes, sir.

Q. Your mills are on the feeder? A. Yes, sir.

Q. The Plasterville feeder? A. Yes, sir.

Q. The first feeder north of Norwich? A. Yes, sir; when the canal was built both towns were all one; it was Norwich then.

Q. Then it must be what is called on the map feeder No. 2? A. Yes, sir.

Q. When was your mill property located there? A. Well, I couldn't tell exactly; it is some time between fifty and sixty years ago.

Q. Was there a mill there at the time of the construction of the Chenango canal? A. Oh, yes; had been there probably nearly twenty years before the canal was built.

Q. Your power then was obtained by a dam? A. Yes, sir.

Q. The State took away that dam in the construction of the canal? A. They took away that and built a dam a little above on the feeder, and the feeder comes down to the canal, and I take my water out of the feeder before it gets to the canal; the mills have a privilege with the canal for water.

Q. Has that always been so since the construction of this feeder dam? A. Yes, sir.

Q. The water after it is used in your mill, runs back into the feeder? A. No; it runs into the river after it is used.

Q. Then it is waste water; surplus water? A. Yes, sir.

Q. Have you any right to use any thing but surplus water? A. Yes; after the canal closes I have a right to the water; I have a preference to the water in the room of the canal after navigation closes; in navigation time the canal has a preference of the water.

Examination continued by Commissioner CHAMBERLAIN:

Q. Have you any contract from the State authorities in any shape? A. I think I have; I have a writing at home; I might have fetched it along.

Q. Who is it from? A. It was from Pike; Pike owned the property when the canal was built.

Q. Any thing from the State, I mean? A. Yes; this is a writing from the State; well, the State was to keep up the dam and the feeder, and then they dug through the canal in front of the mills, and to keep up the bridges in front.

By Commissioner WALDO:

Q. Is any of this in writing? A. Yes, sir.

Q. Have you that writing with you? A. No, sir.

By Commissioner CHAMBERLAIN:

Q. The clerk's office is here, isn't it? A. Yes, sir.

Q. That would be a matter of record, wouldn't it? A. I don't know.

Q. In condemning this property by the State, your original grantors were paid by the State for the property, some compensation? A. I presume that the State paid the damage to the mills by keeping up those dams; now, if the canal goes down I understand that these gentlemen that own the land above the dam are going to order the dam taken away; but it would be a damage to the mill property if it was; if the canal should go down, and I had the right the State has to keep up that water, I could keep my mills good, but without it I couldn't.

Examination continued by Commissioner WALDO:

Q. In that event you would not be injured? A. Well, I should be injured some; I don't know how much.

Q. In what respect? A. Well, the bridges in front of the mill; it is quite an expense to keep them up.

Q. What is that bridge—a farm crossing bridge? A. No; it goes over the canal in front of both mills; it is forty-four feet wide.

Q. The span? A. Yes, sir; and it is four lengths of planks the other way—sixteen foot plank; no; I believe they ain't all sixteen foot plank; there is some lengths, I believe, a little shorter; it is quite a long bridge, and a wide one.

By Commissioner CHAMBERLAIN:

Q. Is this over the canal? A. This is over the canal.

By Commissioner FOSTER:

Q. So I understand that you consider this, Mr. Brown, a part of the condition under which the cession was made to the State, at the time, for the construction of the canal? A. It was made at the time the canal was built; the privilege of the water to the mills is what the State should keep up as a part of the damage to the mills.

Examination continued by Commissioner WALDO:

Q. Who has maintained this bridge; at whose expense has it been done? A. The State has maintained it.

Q. Always hitherto? A. Yes, sir.

Q. Have you contributed any portion toward the expense of keeping up and maintaining that bridge? A. No, sir; it is the State's property; there is two spaces that I maintain myself separate; there was a plaster-mill put in after the canal was built; in front of the plaster-mill I maintain the bridge, but in front of the grist-mill and the saw-mill there is four spaces that the State maintains.

Q. That is, there is four sixteen feet lengths? A. Well, I think there isn't all of them sixteen; some of them sixteen, and I think there is some of them down to fourteen.

Examination continued by Commissioner CHAMBERLAIN:

Q. Do you transport any grain to your mill, or flour from it, over the canal? A. I have not; we transport lumber.

Q. Where do your logs come from? A. Some of our logs come from above and some from below.

Q. By canal? A. By the canal; and our lumber goes a considerable on the canal; we have sent lumber to Albany and New York, but now, for two or three years, not very much.

Q. Lumbering business is pretty well used up here, except for custom business, isn't it? A. Well, there isn't so much done now, as business is, as what there has been done; there is a good deal of lumber here yet.

Q. Have you pine here? A. Well, some; I have not any myself, but there is some considerable pine left here yet, and hard wood lumber; that goes to New York, a good deal; grain, I haven't transported any myself on the canal.

Examination continued by Mr. WALTER COOK:

Q. You couldn't run your mill at all, Mr. Brown, could you, unless that feeder and the feeder dam was kept up? A. No, I couldn't do it; it would spoil the mills entirely.

Q. As I understand you, you think one of the conditions precedent by which this right was granted to the State was that this feeder should be maintained, and this feeder dam, when they tore away the old dam? A. Yes, sir.

Examination continued by Commissioner WALDO:

Q. You are unable to state what the contents of that contract is? A. Well, I can't myself, only what I have been told when I bought the property.

Q. But whatever that contract is, it is in writing? A. Yes, sir.

Q. If the feeder was taken away the mill could be run by a dam constructed where the old dam was, or substantially where the old dam was? A. There isn't any there now.

Q. I know; but by a new dam constructed across the creek? A.

I don't know now whether we could get the water high enough to go into the pond from the river if that should go away.

Q. Well, you could use this feeder dam with permission from the State, and answer all your purposes? A. Yes, sir.

By Commissioner CHAMBERLAIN:

Q. Did you own this property at the time the canal was put in? A. No, sir; I did not.

Q. Do you know what was paid by way of damages? A. I do not; Pike owned the property at that time — Jarvis K. Pike.

By Mr. WALTER COOK:

Q. The channel of the stream has been changed by the construction of that feeder dam hasn't it? A. Yes, sir.

Q. The channel used to run up by the old mill, didn't it? A. The channel used to run a little below where it runs now.

Examination continued by Commissioner WALDO:

Q. How much? A. Well, I should think may be a dozen rods, it might be a little more and might be a little less; that was taken away and built above and then a feeder down through; the water comes into the pond before it gets to the canal.

Q. What amount of capital have you invested? A. About $8,000.

Q. We include in this inquiry your mills and power? A. Yes, sir; well, the real estate attached to it.

Q. How much real estate? A. The deed covers forty acres.

Q. Could it be sold for cash for $8,000? A. Well, I don't know; it has cost me that I guess.

Q. What is your opinion it could be sold for in cash? A. I should think it wouldn't quite sell for that just now — in these times.

Q. What difference would there be? A. Well, I should think it ought to bring from $7,000 to $8,000.

Q. How much is your land worth per acre? A. I couldn't say; Its pretty badly cut up.

Q. Well, probably? A. Oh, if there was no mills on it I don't know — it might bring probably fifty dollars an acre.

Gen. SAMUEL R. PER LEE sworn, testified as follows:

Examined by Commissioner Waldo:

Q. You reside where, general? A. In this village, sir.

Q. For how long? A. I have resided here since the spring of 1835.

Q. Interested in business here? A. Yes, sir.

Q. Have any property along the line of this canal? A. Yes, sir.

Q. What? A. I have a warehouse and mill attached.

Q. In the village? A. Yes, sir.

Q. Describe it. A. It is a three story, brick warehouse.

Q. Immediately on the bank of the canal? A. Yes, sir.

Q. The size of it? A. The main building is thirty-two by eighty-five, I think, and the engine room about twenty feet square.

Q. The value of the premises? A. Well, the premises cost me — mill and coal shed and every thing — about $18,000.

By Commissioner CHAMBERLAIN:

Q. What is the mill? A. Feed-mill.

By Commissioner WALDO (continuing):

Q. You have a steam power? A. Yes, sir.

Q. Used for propelling this feed-mill? A. Yes, sir.

Q. And for raising the product out of the boat? A. We never have used it as an elevator; we use horse power for elevating.

Q. When was this property constructed? A. I think five years ago.

Q. How would its business be affected by the discontinuance of the canal? A. My whole business, do you mean?

Q. That business — the business connected with that mill — mill and warehouse? A. Why, my business would be very materially affected by the abandonment of the canal.

Q. You are away from railroads? A. Yes, sir; my property is built upon the line of this canal for the purpose of doing business upon the canal; my coal trade would be entirely cut off; I wouldn't have any means of getting a pound of coal.

Q. Have you ever been connected with the management of this canal? A. Yes, sir.

Q. When? A. Eighteen hundred and forty-six, or 1847, or 1848, I think; somewhere along there.

Q. In what capacity? A. I was superintendent of this section.

Q. Have you used this canal for carrying purposes? A. Yes, sir.

Q. To what extent? A. Well, sir; I have been in the business since 1849; many days, sir, I have shipped a hundred tons a day of butter and cheese out of my warehouse.

Q. That was in the early part of your business? A. Yes, sir.

By Commissioner CHAMBERLAIN:

Q. That was before the railroads were built? A. Yes, sir.

By Commissioner WALDO:

Q. What, in fact, have you done for the last three years over the canal? A. Well, sir, I have transported considerable coal and salt.

Q. From where? A. Well, from Binghamton.

Q. Coal from Binghamton, and salt from where? A. From the works at Syracuse, and also feed and grain from different points.

Q. Have you any means of giving us some idea of the extent of it each year; the number of boat loads, or any thing of that kind; or the number of tons in the last three years? A. No, sir; not without referring back to my books.

Q. You have not done as much in the last three years as before? A. No, sir.

Q. For what reason? A. Well, there are several reasons; in the first place, one great reason is, the canal has not been in a condition that we could safely transport many articles that we would have transported had it been in condition so that we could run boats without being detained; we couldn't ship cheese and butter very well on account of the canal being in bad condition; boats were liable to be detained one, two, or three days, or two weeks, perhaps.

Q. What was the bad condition of the canal; describe it as fully as you can, briefly? A. Well, the locks were in bad condition; water would be low, and detentions of all kinds that would necessarily come from a canal that was not properly taken care of.

By Commissioner CHAMBERLAIN:

Q. Have you been in the habit of receiving grain by rail? A. Yes, sir.

By Commissioner WALDO:

Q. Salt and coal by rail? A. Yes, sir; no coal; can't get coal by rail.

Examination continued by Commissioner CHAMBERLAIN:

Q. Well, coal is received here in town by rail, is it not? A. The railroad companies received coal; an individual cannot go and transport any coal over their road — an outsider.

Q. Without buying the coal of them? A. We can't then; they won't sell it to us; I brought the first load of coal into this town, and have been in the business ever since, with the exception of when I was in the army, and I have always sold their coal; but I can't go to them to-day and buy a car load of coal.

Q. They have their agents, I suppose? A. Certainly they do; they calculated to monopolize the thing; were it not for this canal to-day, we would have been paying two dollars more a ton for coal than we are now; and then not only buying it, but, in fact, begging it of them.

By Mr. WALTER COOK:

Q. That is a matter of a good deal of importance to this locality — this matter of coal? A. It is of great importance.

Q. To this community? A. Yes, sir; not only to this place alone, but to other places upon the line of this canal.

Q. You used to do a heavy coal trade, did you not? A. Yes, sir; that is, for a place of this size.

Examination continued by Commissioner FOSTER:

Q. Mr. Per Lee, haven't you facilities at Binghamton of purchasing coal, independent of the Delaware and Lackawanna and the Delaware and Hudson companies? A. Now, sir?

Q. Yes. A. Yes, sir.

Q. You get it transported over the Erie? A. Yes, sir; at Binghamton.

Q. Is that done to any extent? A. Oh, yes, sir; coal is being shipped by that company all through the line of this canal.

Q. That is a means of regulating the price of coal? A. It is the only means; were it not for that, we should be in the hands of these railroad companies entirely; why, sir, before it was ascertained that this canal was to be opened this spring, I went to the agent here and tried to buy ten car loads of coal of them: "No, sir; we can't sell you any coal."

By Commissioner Waldo:

Q. Your premises are located at nearly the upper part of the village? A. Yes, sir.

By Commissioner Foster:

Q. Are there any interests between you and the furnaces up there? A. There is a lime kiln, sir.

Examination continued by Commissioner Waldo:

Q. How much capital is there invested in that? A. Well, sir, I don't know what amount of capital; they burn a good deal of lime there, and do a large business in lime.

Q. How many men do they employ? A. Well, I don't know; I should judge some four or five about the kiln.

Q. What power do they use? A. They have horse power for hoisting.

Q. They do not have any occasion to use the water of the canal then? A. No, sir.

Q. Do you know whether they transport any thing over the canal? A. Yes, sir.

Q. What? A. All their limestone.

Q. From the quarry? A. Yes, sir; from Oriskany Falls.

Q. Always by canal? A. Yes, sir; never bought a pound any other way.

Q. State about the plaster-mill east of the canal? A. There is a plaster-mill situated about a mile directly east from the canal; they transport all their stone from Manlius over the canal.

Q. Are they doing it this year? A. Yes, sir.

Q. Who own it? A. Mead and Guile — the estate of Mead and Guile.

Q. What is the amount of capital invested in that plaster-mill? A. I couldn't say the amount of capital; perhaps three or four thousand dollars.

Q. The mill employs how many men? A. I couldn't answer that, sir.

Q. They are interested in the canal simply as a means of carrying; they take no water from the canal? A. No, sir.

Q. They use it for carrying purposes? A. That is all, sir; for transporting their stone.

Q. Going above this lime kiln on the canal; what is there above that, any thing? A. The next is the furnace that Mr. Andrews is connected with.

Q. Is there any thing above that? A. Nothing until you get to a plaster-mill; you have already got that.

Q. Then coming this way; the next is your property? A. Yes, sir.

Q. The next below your property? A. The next below us, is a tannery.

Q. Employing about how many men? A. Oh, I should judge, all told, ten men.

Q. Located how far from the canal? A. Well, on a little side cut a few rods from the canal; yes, it is on the canal as you may say; perhaps they have six or eight rods of land on the canal.

Q. In what way are they dependent upon the canal, or benefited by it? A. Well, sir, they use water from the canal.

Q. For what? A. For their steam, and for their vat-liquor, and also for transporting bark, etc.

Q. Do they use the canal for transportation purposes? A. Yes, sir.

Q. They do not ship their leather nor get their hides by canal I suppose? A. They do not ship their leather now so much by canal, but formerly they shipped all their leather by canal.

Q. How long since they stopped shipping their leather and hides by canal? A. I think not to exceed two years; since there has been such an uncertainty about boats getting through, that has been the great trouble.

Q. Where do they bring their bark from? A. Well, there is bark peeled along on the line of the canal, and piled on the canal.

Q. What proportion of the bark that they use, has been brought by canal? A. I don't know, sir.

By Commissioner CHAMBERLAIN:

Q. Do they bring any bark by rail? A. I should judge not.

By Commissioner WALDO (continuing):

Q. Most of the bark is brought in by teams? A. Yes, sir, I think it is; and there is also connected with that tannery a saw-mill.

Q. Custom saw-mill? A. Yes, sir.

Q. How many saws? A. There is only one saw — circular saw.

Q. Water power? A. No, sir; steam.

Q. That is a part of the same property — same owners? A. Yes, sir; and there is also a stave manufacturing concern there — heading and shingle.

Q. Part of the same property? A. Yes, sir.

Q. For manufacturing staves, and heading, and shingles for sale? A. Yes, sir.

Q. As to the capital invested in that business, can you estimate it — the whole, I mean the tannery and saw-mill and stave-mill; make it separate if you can? A. Well, sir, I couldn't give a very correct opinion as to the amount of capital invested in that tannery;

there is considerable capital invested in that tannery; but in the saw-mill, and the stave and heading factory, why, perhaps, $10,000.

Q. You mean the buildings and machinery? A. That includes their machinery; nothing to do with the real estate; their machinery and supplies.

Q. Does it include their material? A. Yes, sir; their supplies.

Q. Well, exclusive of their supplies? A. I couldn't answer that; they have a good deal of machinery.

Q. The buildings are cheap? A. Well, good substantial buildings; the tannery, the main portion of it is stone; the first story.

Examination continued by Commissioner Foster:

Q. Any idea of the size of it? A. I should think that the main building of the tannery was in the neighborhood of forty by sixty.

Q. Any vats outside? A. They have some vats outside; yes, sir.

Q. Are they manufacturing upper leather stock or sole leather? A. Yes, sir; both.

Q. Principally light stock, I suppose? A. Yes, sir.

Q. Manufacture calf skins? A. Yes, sir, some; they have also a smaller building outside that covers vats.

Q. What do you estimate the product — $10,000? A. No, sir; the capital employed in the saw-mill and stave-mill; I couldn't answer any thing about the capital of the tannery, for I don't know.

By Mr. Walter Cook:

Q. Well, to come back; isn't there a shingle machine? A. I said there was a shingle machine connected with them.

Q. Do not Race & Cook manufacture shingles there? A. Oh, indeed, there is; above, right opposite the limekiln; yes, there is a steam power there for manufacturing shingles; also a cider-mill connected with it, and some other things.

Examination continued by Commissioner Waldo:

Q. Going down, what next — the next one on either side? A. The next you come to is Mr. Madole's hammer factory.

Q. That is running? A. Well, sir, they have been repairing and putting in new machinery for a time past, and it has not been running fully.

Q. It has been there for how many years? A. Well, sir, I can't say.

Q. For twenty or thirty years? A. Oh, yes.

Q. What number of men do they employ there, do you think? A. I don't know how many they are employing now, sir; they run as high as 150 there, I think.

Q. Say, for the last two years, what number do they employ? A. I should judge about 100 men or more; as I say, they have been putting in new machinery, and they have not been running.

Q. They are putting new machinery preparatory to running it again? A. Yes, sir.

Q. This hammer institution uses steam power, and also water from the canal? A. Yes, sir.

Q. For power purposes? A. Yes, sir.

Q. What does it take — waste water? A. Yes, sir; takes the water from around the lock — sluice.

Q. What power do they use — to what extent? A. I guess the water power is principally confined now to the grinding part — sawing for handles and grinding, and things of that kind.

Q. Probably what is the capital invested in that? A. I couldn't tell you any thing about it; it is large; I don't know how much.

Q. Does that institution use the canal for any business purposes? A. For transportation.

Q. Now? A. Yes, sir.

Q. This past year? A. Yes, sir.

Q. What? A. Oh, their stone and coal.

Q. Stone from where? A. They get their stone from Ohio, mostly, I guess.

Q. Coal? A. They get their coal, when they do get it, from Binghamton, I guess, by canal; oh, yes; their hickory, for their handles, they transport by canal, a good deal of it; and they have always transported their hammers by canal until the uncertainty of it.

Q. For the last three years what have they done with their product — how have they transported it? A. Mostly, I think, by rail.

Q. When did they commence to use the rail more; probably within three or four years, isn't it? A. Yes, sir; and steel, also, by canal, until within a year or two, and I don't know but they do now.

Q. There is a lock at this hammer establishment? A. Yes, sir; and they have the water as it passes round the lock.

Q. They have seven or eight feet fall there? A. Yes, sir.

Q. Did that power exist before the canal was built? A. No, sir.

Q. The iron establishment can afford to give something for that power rather than to have water taken away, probably? A. I don't know much about that.

Q. Well, next below that? A. Just below that on the other side is Sternberg & Co.'s planing mill, sash, blinds, door and chair manufactory and so on.

Q. What number of men do they employ? A. From twenty to forty.

Q. Is it running all the time? A. Yes, sir.

Q. Do they use the canal for carrying purposes? A. Yes, sir.

Q. For what? A. Lumber.

Q. Where from? A. Well, different points; Oswego, Binghamton and all along; some points upon this canal they get lumber, and upon the Black River canal.

Q. Their products they do not ship by canal much, do they? A. Not to a great extent; they ship something once in a while, but not to a great extent.

Q. Mostly by rail? A. Yes, sir; and by wagons.

Q. What they send away is transported by rail, mostly? A. I should judge so.

Q. But most of their products, any way, are carried away by teams? A. Yes, sir.

Q. Have they used the canal for the last two or three or four years for bringing their material here? A. Yes, sir.

Q. Are they using it this year? A. I think so, sir; I have seen them unloading lumber there this summer; I have seen them unloading lumber from boats there two or three times this season.

Q. They use steam power? A. Yes, sir.

Q. And they are contiguous to the canal? A. Yes, sir.

Q. Use the water from the canal for the supply of their steam? A. Yes, sir.

Q. Next along on the line of the canal is what? A. Well, the next is Mr. Smith, here; he can answer for himself.

Q. What is his business? A. He is a forwarder.

Q. Has he a building? A. Yes, sir.

Q. Store? A. Large building; warehouse.

Q. Located on the line of the canal? A. Directly on the line of the canal, sir; he has two, I think.

Q. The next is what? A. Well, there is a foundry right adjoining Mr. Smith; they employ some ten or fifteen men; last season they boated their coal from Binghamton; used Pope's coal; they send off considerable by canal, and they also transport sand for molding purposes on the canal.

Q. Do they bring this sand by cars? A. I never knew them to do so, sir.

Q. Do they send off their product by cars? A. I presume they do so to some extent now.

By Mr. Walter Cook:

Q. How do they get their pig iron? A. By canal, sir.

By Commissioner Waldo (continuing):

Q. This season? A. Yes, sir.

Q. Where from? A. New York; the most of it from New York.

Q. Comes around by way of Albany and Utica? A. Yes, sir; they use some of the iron manufactured here, I guess, but mostly from New York.

Q. Are they running now? A. Yes, sir; they have a machine shop attached to their foundry; I should think they run from fifteen to twenty hands in both branches.

Q. What is the capital invested in that? A. There is a good deal of capital invested there; I don't know how much; they have quite a fine building — brick; a good deal of nice machinery; I couldn't tell you about the capital there; quite a large capital.

Q. Below that is there any thing? A. Below that is a large cooper shop, there by the bridge.

Q. That is for making what? A. Firkins, barrels, tubs, pails, etc.

Q. How many men does that employ, probably? A. I should say thirty men; I don't know but forty or fifty.

Q. That is a steam power? A. Yes, sir.

Q. That is immediately on the line of the canal? A. Yes, sir.

Q. Do they use the canal for carrying purposes? A. Yes, sir.

Q. To what extent? A. I don't know what extent now they are using it; but they have used it to quite a considerable extent in transporting staves and timber, and one thing and another.

Q. But for the last few years they haven't done it? A. I should think, sir, since the railroads were running, that they had transported more by rail than they have by canal.

Q. What proportion more should you estimate? A. I should think they had transported one-fourth by canal.

Q. Their manufactured product; how have they transported that? A. Generally by teams; more by teams than by rail; it goes off east and west; it is a home trade, for dairy purposes.

Q. How do they transport their product for foreign trade? A. Mostly by rail.

Q. Whatever goes out of the locality goes by rail? A. Mostly.

Q. Below that? A. There is another warehouse.

Q. Whose? A. Mr. Page's.

Q. Upon the line of the canal? A. Yes, sir; right at the bridge where we stopped.

Q. What is the business of that establishment? A. It is flour, feed, salt, etc.

Q. Of the general kind of yours and Mr. Smith's? A. Yes, sir.

Q. How does that use the canal, if at all? A. Oh, in no way, only for transporting salt and grain and feed.

Q. For carrying purposes which does it use the most? A. Well, now sir, the rail; and until the railroad company monopolized the coal trade here he dealt in coal also.

Q. Now he does not transport coal? A. No, sir.

Q. The carrying of his business is mostly done by rail? A. Yes, sir; I should say so now.

Q. For how long a time? A. Well, he has run boats of his own until within a couple of years.

Q. Any others on the line of the canal? A. There is this piano manufacturing establishment.

Q. Is that in operation? A. Yes, sir.

Q. How many hands does that employ? A. I don't know; I should say, upon information, about thirty men; there is a lumber yard where they draw in by teams to ship on the canal.

Q. Connected with this establishment? A. No, sir; a place where they bank lumber; there has been several boat loads of lumber shipped from there within a month past.

Q. Where does it go? A. Goes to New York, Albany, Troy and Schenectady.

Q. What is the capital of that piano establishment, do you suppose? A. I have no means of telling.

Q. Does that establishment use the canal for transportation purposes? A. Not to any great extent, I guess; not now.

Q. Hasn't for the last two or three years? A. No, sir; I think not.

Q. What is it about the gas establishment that is located down the line of the canal? A. Yes, sir; just below Mr. Smith's warehouse.

Q. Is the canal of any use to them? A. They have transported their coal by canal.

Q. Do they now? A. I guess for the last year they have transported by rail.

Q. What is the reason of it — because they can get their coal delivered here cheaper by rail than by boat? A. No, sir; I think not.

Q. What then is the reason? A. The reason is the uncertainty of bringing material by canal; my boat was detained and lay ten days, not a great while ago, right this side of Utica, not moving ten rods, with a heavy load on — seventy-five or eighty tons.

Q. What was the difficulty? A. It was the water; there wasn't water.

Examination continued by Commissioner Foster:

Q. Mr. Per Lee, was this detention of your boat in consequence of mismanagement, or was it in consequence of the lack of condition of the canal? A. It was because there wasn't any attention paid to letting the water from the reservoir into the canal.

Q. Then it was in the management of the canal? A. Yes, sir; entirely so; I talked with the superintendent about it, and he said that one reason why it hadn't been done, was because they couldn't get money to pay their hands, and he avoided doing any work on that account; just as soon as they got some men in and mowed the eel grass out of this feeder, there was water plenty, and all there was about it was two or three days' work.

Q. Does this uncertainty arise generally from the want of management on the part of those who have supervision? A. Yes, sir; wholly.

Examination continued by Commissioner Waldo:

Q. I would like to ask you about the industries along on the line of this canal toward Oxford; a mile and a-half below here there is a saw-mill? A. About a mile and a-half.

Q. On the line of the canal? A. Yes, sir.

Q. Do they use the water for power? A. Yes, sir.

Q. Waste water? A. Yes, sir; situated the same as Madole is; they take the water around the lock.

Q. That is a custom mill? A. Yes, sir.

Q. Do they employ men the year round there, or only run it a portion of the year? A. Well, they run it the most of the season, sir.

Q. The capital is how much, probably? A. Not large; $700, or $800, or $1,000.

Q. Probably employ in the season of sawing a couple of men? A. Yes, sir; not more than that perhaps about the mill.

Q. Beyond that on the way to Oxford? A. I don't know of any thing.

Q. Between there and Oxford? A. Yes, sir.

Q. Above here, between here and Hamilton; is there any thing at Sherburne? A. Yes, sir; Mr. Lobdell & Co., are forwarders at Sherburne, and have a plaster-mill, and grist-mill and several boats.

Q. That is on the line of the canal, and located at Sherburne? A. Yes, sir.

Q. Isn't there a tannery up beyond Plasterville of some considerable extent? A. There is a tannery just west of the village of Sherburne; that is not on the canal; there is a saw-mill about half way between North Norwich and Sherburne.

Q. Do you know any thing about how much capital Lobdell & Co., have invested? A. No, sir; he has quite a capital invested there; he does pretty much the whole business of that town.

Q. He has a grist-mill? A. Yes, sir; for feed and flour; and a plaster-mill, and he also has a coal yard; he has a cheese box factory attached, and supplies the whole country around with cheese boxes.

Q. Is his power steam power or water power? A. Steam.

By Commissioner CHAMBERLAIN:

Q. They have a railroad there? A. Yes, sir; he gets his coal on the canal.

By Commissioner WALDO (continuing):

Q. How does he get his grain and feed? A. By canal.

Q. All of it do you think? A. I guess he does; all through the summer any way, and he generally stocks up pretty strong in the fall with his boats.

Q. He is a forwarder? A. Yes, sir.

Q. He is the only person engaged in forwarding between here and Hamilton, isn't he? A. No, sir; there is Page, at Earlville.

Q. Do you know how many boats he has? A. He has two, certain, and I don't know but he has three; he has two first class boats.

Q. That is, eighty-ton boats? A. Yes, sir; eighty to ninety tons; in three and a-half feet of water they will carry ninety tons.

By Commissioner FOSTER:

Q. They are the old small class of boats that used to be on the Erie canal? A. Yes, sir.

Q. They will carry seventy or eighty or a hundred tons? A. Oh, yes, easily; he has got boats, as the canal used to be here, that would carry off a hundred tons; I have run off 110 tons off of this canal; it depends upon the water.

By Commissioner WALDO (continuing):

Q. There is a saw-mill this side of Sherburne? A. Yes, sir.

Q. A local custom saw-mill? A. Yes, sir.

Q. Does it rely on the canal for its water power? A. Yes, sir; situated the same as this man below — on the lock.

Q. Returns the water into the canal from the sluice? A. Yes, sir.

Q. What is the condition of this canal in this vicinity as to repair? A. Oh, I should say it was in very poor repair.

Q. State particularly in what respect? A. It has not been bottomed out at all to amount to any thing for years.

Q. How many years? A. Quite a number; they have pretended to bottom it a little, but not to amount to any thing.

Q. It would need cleaning out? A. It would need a good deal of cleaning; there are bars that have been neglected, and have not been taken out.

Q. Many? A. Well, considerable many; washed in from these little bits of streams that come in, from heavy rains, etc.

Q. Quite frequent some of the way? A. Yes, sir; and the locks are considerably out of repair; there has been nothing done to it this season.

Q. How long is it since there has been much repairs to those locks? A. There has not been much done to them for three years.

Q. Any thing been done to them this year? A. Not to amount to any thing; when there has any thing given out so that the locks were impassable — so that they couldn't run a boat through — they would patch it up.

Q. In order to make the canal really good for transportation purposes, it should be cleaned out on the bottom? A. In some portions of it; some portions of it need it.

Q. To what extent? A. I couldn't say to what extent, but there are some portions of the canal want bottoming.

Q. How is it about the banks of the canal? A. I guess the banks of the canal, as a general thing, are pretty good.

Q. How is it about the feeders between here and Binghamton? A. Well, sir, I am not conversant with their condition enough to say.

Q. Between here and Binghamton there is no great extent of feeders to be maintained, I suppose? A. No, sir; not so much so as north.

Q. The feeders take the water from the creek into the canal, and at a very short distance, usually? A. Yes, sir; there is a feeder just this side of Oxford, and another one four miles below Oxford, and another one at the Forks.

Q. What is the sentiment of the people of this locality as to the continuance of this canal by the State? A. Why, so far as I know, the sentiment is very strong for the maintenance of this canal; there may be some people that would be in favor of the canals being abandoned on account of some little personal interest that they have, that would not amount to hardly the snap of your finger.

Q. There may be some people who would desire the canal abandoned for personal interest? A. Yes, sir.

Q. What would be the effect upon this village? A. It would be my opinion that it would be to its interest, decidedly, to have the canal maintained.

Q. Why? A. Well, sir, on account of water for one thing, and for transportation purposes for another; there is one great thing — the transportation of coal itself, and the restrictions upon these railroads would be of vast interest to this corporation.

Q. Your idea is that the canal is mostly valuable as a means of competition in the coal trade? A. I mean that it is of vast importance for the transportation of coal to the consumers of coal here; not only coal, but for other purposes to a great extent.

Q. You have two railroads going through this village? A. Yes, sir; we have two direct lines and two branches.

Q. They are not operated by the same companies? A. No, sir.

Q. You speak of its being useful to the village for water purposes; in what respect? A. For a supply of water for most all purposes, with the exception of drinking purposes.

Q. If the dam at this feeder above the village was maintained, the village could be supplied with water through this canal, if the canal was abandoned, very easily, couldn't it? A. If the dam and feeder was maintained, and the canal banks kept in order from that feeder down through the village to this creek, there could be water passed through.

Q. Where is this creek located? A. About half a mile below the village.

Q. There is a waste weir from the canal? A. Yes, sir.

Q. And there would be a convenient place to let the water pass off into the creek? A. Yes, sir.

Q. In case of an abandonment, would not this canal or its feeder and dam above here, be worth considerable to the village, and would not the corporation be willing to purchase it and maintain it themselves? A. That I couldn't say.

Q. If it did maintain it, the establishments along its line would be able to get water from the canal the same as now, with the permission of the village? A. If they gave them permission and kept up the supply of water, they could, of course.

Q. If the canal was discontinued the water from the feeder above, when brought through this channel, if the channel was kept clean would be good water for ordinary uses, wouldn't it? A. Oh, for all the uses that it is generally put to, sir; I don't know why it would not be just as good as if the canal was maintained; the water in this canal would be just as useful as it is now, if the canal was abandoned, provided the feeder was kept up and the banks of the canal were maintained so as to keep the supply; if they kept the supply of water the same as it was if the canal was in operation, it would be the same thing any way for all purposes except commercial purposes.

Examination continued by Commissioner CHAMBERLAIN:

Q. What would be your opinion of the probable expense of placing this canal in proper condition of repair the whole length of it? A. I should want time to make figures on that, sir; I couldn't answer that question without; those having the canal in charge could answer that question better than I can.

Q. In case the Legislature should conclude to abandon this canal, they have charged us to make inquiries as to its value for hydraulic or commercial purposes — for the carrying of freights. A. I don't know much about the extent it is used further than this town.

Q. Well, take particularly this town? A. It is only used by Mr. Madole, and a saw-mill below here; this saw-mill below does not do a very large business; I should judge, perhaps, that one-fourth of Mr. Madole's power may be of water.

Q. This water that Mr. Madole uses, of course, would be more valuable in case the canal was not used for carrying purposes — it would, probably be more valuable if he could have the full control of it at this point, would it not? A. If he could have full control of it, but so far as the waste water is concerned the amount of water would be the same.

Q. Suppose you put a dam there in place of that lock, then, of course he would have more water, wouldn't he? A. Well, he could run more water through, if it was necessary, perhaps, than is now run through.

By Commissioner Foster:

Q. All the additional water is just the lockages that runs through the canal? A. Yes, sir; that is all.

By Commissioner Chamberlain (continuing):

Q. Well, what would be the value of the canal, say, for instance, through this village, for hydraulic purposes, in case of the abandonment of the canal? A. Well, I am unable to state that.

Q. What is it worth to any man, for hydraulic purposes? A. Oh, it would be valuable, sir; how much I don't know; it would be a valuable power.

Q. You can form some sort of an estimate of its value, I suppose? A. Well, for some reasons, I prefer not to make an estimate upon that; I have often heard Mr. Madole remark that if he had to keep the dams in repair, and the little necessaries in repair pertaining to the water power, that he would think steam as cheap.

Examination continued by Commissioner Foster:

Q. As you have been a superintendent of the canal, I would like to get your opinion in regard to the comparative expense of keeping this canal in condition, starting at a point at the summit, where those feeders come in, toward Utica, as compared with this portion coming down the valley; which would be the greatest expense to the State to keep in navigable condition — the other end or this one? A. Oh, the other.

Q. To what extent more than this? A. Oh, to a large extent.

Q. Double or triple? A. Yes, more than triple, I should say.

Q. Well, is there any great danger of breaks in this canal from Hamilton down to Binghamton? A. Not if it is properly overseen; I was on this canal four years and I didn't have a break on it.

Q. You consider this a very safe location for the canal? A. From Hamilton to Binghamton?

Q. Yes. A. Oh, very; very.

Q. Do you recollect of any serious break down this way? A. Yes, sir; several years ago there was quite a serious break at Chenango Forks; it was at the time of a very great freshet.

Q. Extraordinary freshet? A. Oh, yes; very extraordinary freshet; the river washed the embankment away.

Q. The breaks have been more frequent toward Utica from Hamilton than they have this way? A. Yes, sir.

Examination continued by Commissioner CHAMBERLAIN:

Q. In case the Legislature conclude to abandon this canal do you consider it necessary to keep the canal open from the summit level to Utica as a feeder of the Erie; or can the same amount of water be run through the Oriskany creek and fed into the same level of the Erie? A. Well, I am not conversant with that portion of the canal, but I suppose that the water could be let into the creek, then into the Erie, without maintaining the whole length of the canal, and keeping it in navigable condition for boats.

Examination continued by Commissioner WALDO:

Q. Are there not, along the line of this canal, a good many water powers which are valuable, and would be valuable in case of the abandonment of this canal? A. There are water powers, but to what extent they would be made valuable, I don't know.

Q. Do you think that the canal, as it is now in operation, and has been for the last few years, is of value for hydraulic purposes? A. Well, from the information that I have from those that have used water powers, they consider steam power full as cheap; that is all I can say about it; I am not conversant with the water power at all; never used the water power, and don't know any thing about it, in fact.

WILLIAM E. DAVIS sworn, testified as follows:

Examined by Commissioner WALDO:

Q. You reside where? A. In Sherburne.

Q. Are you engaged in business there? A. I am.

Q. What is your firm? A. S. W. Lobdell & Co.

Q. What is your business? A. Flour, feed, water lime and plaster is our stock.

Q. You are right on the bank of the canal? A. Yes, sir.

Q. Are you engaged in transportation? A. No, sir.

Q. Own any boats? A. Own two boats, and employ others to do business.

Q. How long have you been engaged in that business? A. Since 1872 — since I engaged in that.

Q. You and your predecessors have been engaged in business there for how long? A. Twenty or thirty years.

Q. How far are you from the railroad? A. It is about 200 feet from the track.

Q. What road is that? A. Delaware and Lackawanna; that is the corporation; there is another one four miles — the Midland.

Q. How do you do your transportation, by railroad or canal? A. By the canal.

Q. Entirely? A. Entirely, if possible.

Q. For this last two seasons have you done it so? A. Yes, sir.

Q. Do you do any transportation by rail at all? A. We have to do some.

Q. Why? A. Because the canal is so slow that we can't keep up the stock.

Q. Sometimes you do it in the winter? A. We have to do it in the winter, some, but not very much; we calculate to get in a stock in the fall that will last us through.

Q. Why don't you do it by rail in the winter, as you want it? A. Well, we think we can buy cheaper and get it in cheaper by canal in the fall.

Q. Any difference in transportation, is there? A. There is some; they ask us twenty-six dollars a car in summer from Oswego on feed, and in the winter thirty-six dollars.

Q. What loads do you carry on your boats? A. We bring about seventy tons.

Q. What can you carry from Utica to your place in the condition the canal is now? A. Well, we have had on eighty tons.

Q. This summer? A. Yes, sir.

Q. Were you detained any way? A. Yes, sir; we were, on account of low water; if we had good water we could have come right along with it.

Q. Are there any places along the line between your place and Utica where the canal would need bottoming out? A. Yes, sir.

Q. Many places? A. Not very many places; a few bars; there is one in particular I have heard them speak of; they thought if that was taken out, they wouldn't have much trouble in coming along with boats.

Q. What is the general condition this season of the locks of the canal? A. Our boatmen report that they are in very good condition; there has been only one lock gate, that I know of, broken this year.

Q. Have you had any boats from Binghamton this year? A. Yes, sir; loaded with coal; we have had eight boats from there.

Q. What load did they bring? A. Most of them brought sixty-six tons.

Q. Is that about all they can bring in the present condition of the canal? A. Well, it is all they wish to put on, on account of the water being low through the summer; now they could bring a full load; eighty tons; eighty-four.

Q. Have you been along on the line of the canal, this summer? A. Not below.

Q. Have boats been detained in coming from Binghamton, this way, this summer? A. Yes, sir; we had one boat detained two weeks, between Sherburne and Oxford.

Q. For what reason? A. On account of low water only.

Q. These locks, you say, are in pretty good repair; do you think they could be used for many years without much expense for repairs? A. Yes, sir; without any very heavy repairs; the stone work is good in our vicinity; more so than the new, or one or two years old.

Q. Is not the wood work in a good deal of decay? A. Well, some of it is, and some is good; there is one aqueduct that needs to be repaired; that is in Sherburne, above the village about a mile.

Q. How is it out of repair — badly, or otherwise? A. One of the piers in the brook is undermined by the stream; it would need to be rebuilt, and perhaps the butments, too, as I call them, and the wood work should be all new; the length of this aqueduct is about sixty feet.

Q. How many men do you employ in your mills there? A. Seven.

Q. Do you get your plaster by rail or boat? A. By boat.

Q. And your flour and feed by boat? A. Yes, sir; we bring every thing by boat that we can.

Q. And have for a number of years? A. Yes, sir.

Q. How would you be affected, in your opinion, by the discontinuance of the canal from Hamilton this way? A. It would spoil our business entirely, I think.

Q. That same amount of flour and feed would have to be sold there wouldn't it; and plaster would have to be sold, wouldn't it? A. No; I don't think we would sell any plaster at all.

Q. Somebody would have to sell that kind of material there — it would have to be sold there, wouldn't it? A. No; I don't think they would come there for it; if we didn't sell it there they would go to other points for it.

Q. Along the line of the canal or the railroad? A. The railroad; yes, sir; it would take the plaster trade mostly over on the Midland railroad, away from us ten miles; the most of our trade is in the eastern part of the county.

By Commissioner CHAMBERLAIN:

Q. Where do you get this stone that you make plaster of? A. It comes from Fayetteville and Manlius, on the Erie canal.

By Commissioner WALDO:

Q. Is there any thing else that you desire to state? A. I don't think of any thing; I have made up a little statement. [Statement produced.]

By Commissioner CHAMBERLAIN:

Q. What is the amount of capital invested in your business? A. That is on that paper.

By Commissioner WALDO (continuing):

Q. Is this statement correct? A. Yes, sir; let me make a little statement; I won't swear that every identical ton is correct, it may overrun or fall short; I didn't have time to make up the statement from the books closely.

Q. Is it substantially correct? A. Yes, sir.

Statement marked Chenango canal Exhibit, No. 2.

Adjourned for dinner.

Afternoon Session.

Edward Smith sworn, testified as follows:

Examined by Commissioner **Waldo**:

Q. You reside in Norwich? A. Yes, sir.

Q. And have for how long a time? A. Twelve years.

Q. Engaged in business here? A. Yes, sir.

Q. In what business? A. Warehouse business.

Q. Is your warehouse upon the line of the canal? A. Yes, sir.

Q. In the village of Norwich? A. Yes, sir.

Q. Have you any connection now with the management of the Chenango canal? A. Yes, sir.

Q. In what capacity? A. Superintendent of repairs.

Q. From what time? A. From the twelfth of September, when the appointment was made.

Q. Have you been over the line of the canal to any extent, since your appointment? A. The northern part of the canal I have been over, the most of it, from Utica to Earlville, and examined it closely.

Q. What is its condition from Utica to Earlville? A. Better than I expected to find; the locks and structures are in fair order; some few locks that want repairing, but not any thing to amount to a great deal; some linings of locks are quite bad, but better than I expected to find.

Q. Earlville, is how far from Norwich? A. Sixteen miles.

Q. Has the bottom of the canal filled in to any extent? A. Well, there are bars; of course, I couldn't tell about this so well because the levels were full, and I couldn't see them; the lock tenders along notified me at such points that there were bars that ought to have been shoveled out in the spring, and had bothered boats some.

Q. How much water could a boat draw from Utica to Earlville; I mean in the condition the canal is now, with these bars as they are to-day? A. Most of boats, with eighty tons, will draw about three and a half feet of water; I suppose the canal should be about four and a half feet in depth; boatmen are allowed to load three and a half feet, and eighty tons generally takes them down three and a half feet.

Q. Have you three and a half feet of water in the canal all the way? A. No, sir; I do not suppose there is; there may be now the water is well up, but through the summer there has not been that; it was difficult, I suppose, to get along with over sixty tons through the summer.

Q. Probably less than three feet of water some places? A. On these bars perhaps there might have been; but I shouldn't think it would trouble a boat to go from here to Utica with eighty tons now, very comfortably.

Q. You have visited some of these feeders near Hamilton? A. Yes, sir.

Q. Visited the Madison feeder, Woodman's pond and Eaton reservoir? A. Yes, sir; found them, I should think, in good condition.

Q. The water was low in the Eaton reservoir and in the Madison reservoir? A. Yes, sir; not but what there was a good flow of water down the race from both of them, I think.

Q. The feeders appeared to be in good condition? A. Good condition; no repairs that I could see, necessary this season, any way.

Q. Would there be many repairs, in your opinion, for Eaton reservoir or Madison reservoir? A. I couldn't tell where.

Q. From your examination, you think there would not be any immediate demand for a great outlay of expense? A. Yes, sir; I suppose it is my duty to estimate what absolute repairs are needed for sixty days to come from now; as far as I have been, if I find the canal in the same condition from here to Binghamton that I have from here to Utica, I don't see as I can estimate what we absolutely need for repairs as over $200.

Q. You have not been from Earlville to Binghamton? A. I have not on the tow-path, no, sir.

Q. How does the amount of tonnage this year compare with that of last year; are you able to tell in any way? A. No, sir, I can't; you can find that out better at Oxford, from the collector there.

Q. Is the canal used for shipping purposes in Norwich and vicinity by the people doing business there as much as heretofore? A. No, sir.

Q. For how long has it been falling off? A. Well, it has been falling off ever since the railroad was built; of course, we had no other way to ship until the railroads were built.

Q. Since then has it been falling off every year more? A. No, I think not; I think the first year after the railroads were built everybody shipped on railroads most, and since then they have been shipping more by canal.

Q. Has it been used this season by the people in this village and locality as much as last season? A. Well, I don't think it has; I think it would have been used as much this season if it had been in as good order as it was last season (and, perhaps more), and opened in season; it was not opened until the middle of June.

Q. Was it used, in your opinion, as much by the people in this vicinity last season as the season before? A. Well, I should think it was, sir.

Q. You think there has been no decrease? A. I don't think there has for the last two or three years.

Q. Do you have occasion to use the canal in your business for carrying purposes? A. We have our salt come by canal.

Q. All of it? A. Well, through the summer time.

Q. Well, what portion of your year's salt do you have come by canal? A. Well, last season we boated between 6,000 and 7,000 barrels of salt over the Chenango; this season we are not boating as much; perhaps there is just as much salt boated over the canal; last season the salt works was confined to a company, and we had a little the inside track, because we boated more salt than any one else, and furnished the canal with salt, mostly from Utica through to Binghamton; now everybody is running salt; I presume there is as much salt, but we are not doing as much.

Q. During the time the canal is open do you send any salt by rail? A. Well, only from here to Sidney, perhaps; not on the line of the canal.

Q. You send no salt on the line of the canal by railroad except in exceptional instances? A. No, sir.

Q. And limited amounts? A. Yes, sir.

Q. Do you bring any salt from Syracuse here by rail during the time navigation is open? A. Well, not unless we are cramped to it; now, this season, I think, we had a car load of salt after we had a boat load or two on the way, on account of low water, and they could not get through here, and we got out and ordered a car load.

Q. On account of detentions to the boat? A. Yes, sir.

Q. Detentions after they got to the Chenango or before? A. After they got on to the Chenango; all the coal we buy in New York we bring here by canal.

Q. You know this feeder above the village? A. Yes, sir.

Q. You are familiar with the canal through the village and down to the aqueduct? A. Yes, sir.

Q. The dam above the village is in good repair? A. Well, there had ought to be a little work laid out there, but still, I think, I shall not lay out any there this season.

Q. The water is from the Chenango creek? A. Chenango river; Yes, sir.

Q. Is this Chenango river water apparently free from impurities? A. Well, now, I should think not.

Q. There is no drainage from towns above or any thing of that kind? A. Perhaps the drainage from towns above is not large enough to affect it, but if people have a dead horse or dead cat it is thrown into the river; it is not what we would want to drink.

Q. If the canal was not used couldn't that water be used for purposes in the village? A. No, sir; I should think not; I should not think they would want to use it.

Q. Is the body of the water in the canal up to its line through the village now from the feeder? A. I should think it was up.

Q. Has it usually been so during the summer? A. No, sir.

Q. Why not? A. Well, sir, I can't tell why not; I don't think it was rightly managed.

Q. There is no defect in the dam, nor in the capacity of the river, to furnish the necessary amount of water? A. No; I should think there was water enough going down the river to have kept our canal up if it was attended to; but we have had trouble around here with our water, I know.

Q. What is the sentiment of this community, so far as you know, as to the disposition to be made of the canal? A. I think the majority of the people of this village are in favor of having the canal open as it is — kept in running order by the State; I think that would be the sentiment of the majority — a large majority.

Q. In case of its abandonment, could not this water from the feeder and the canal be disposed of to the village for its purposes and to private enterprise? A. Could it be sold, do you mean?

Q. Yes; couldn't it be disposed of by the State for a compensation? A. Well, sir, I don't know as it could for any hydraulic purposes; the village might feel disposed, if it was going to be shut up, to pay something for the use of it from the feeder down to the aqueduct for fire purposes, and water for that use; I don't think there is any one, unless it is Madole, who would pay any thing for the use of it.

Q. Wouldn't others step in and buy it for the purpose of building up other manufacturing establishments? A. As I said before, there are persons who would step in and buy the canal from the feeder down for the sake of speculation; I don't think there would be any one buy it for hydraulic purposes.

Examination continued by Commissioner FOSTER:

Q. Perhaps that is hardly a fair way to get at it, Mr. Smith; wouldn't the fact of the State offering to sell, place it in the power of those who own the adjacent property to make the price for the water for hydraulic purposes; that is, wouldn't they exclude any body else from coming in as purchaser, refusing to sell their property, so as to get it at their own figures; wouldn't the individuals who own adjacent property to the locks, for instance, wouldn't they debar any body else from coming in and bidding? A. Well, I don't know how they could do it.

Q. Wouldn't the adjacent owners, really be in a position to make the price to the State? A. Well, I don't know about that.

Examination continued by Commissioner WALDO:

Q. What, in your opinion, would be the value of this water power, from the feeder to the aqueduct for hydraulic purposes, or, if you can not estimate the amount, would it be valuable for sale? A. No, sir; I should not think it would.

Q. From here to Hamilton, are there any water powers connected with the canal, that would be useful, for sale? A. No, sir; I don't think there is any between here and Hamilton; there is a saw-mill or two, take from the waste, but not to amount to any thing that they could afford to pay any thing for it.

Q. Have you noticed the water powers on the stream, from Eaton reservoir to Eaton village? A. Yes, sir.

Q. Lately? A. Yes, sir.

Q. You have examined them this week? A. Yes, sir.

Q. You looked at them with reference to their value for water powers? A. Yes, sir.

Q. In your opinion, is that feeder, disconnected from canal uses, valuable for hydraulic purposes — for water power purposes? A. Yes, sir; I think it is very valuable; I can't estimate the value.

Q. There are quite a number of powers along the feeder? A. Yes, sir; quite a number.

Q. Some used and some unused? A. Yes, sir; and quite a number that might be used, more than they ever have been.

Adjourned.

OXFORD, *September* 30, 1876.

Col. CALVIN COLE being duly sworn, testified as follows:

Examined by Commissioner WALDO:

Q. Where do you reside? A. I reside in the village of Oxford.

Q. How long? A. Sixty-two years.

Q. Are you acquainted with the line of the canal from here to Binghamton? A. I have traversed it, sir, the whole length; yes, sir.

Q. You know this dam above the village? A. I do.

Q. How far is it above the village? A. Well, sir, I should judge it was about a mile and a quarter; over a mile.

Q. That is a dam on the Chenango? A. On the Chenango river.

Q. Used for the purpose of turning some of the water into a feeder for the purpose of feeding the canal? A. Yes, sir.

Q. How long is the feeder? A. The feeder before it empties into the canal, is in the neighborhood of fifty rods; may be a little more; I think not any less, and perhaps won't vary much from fifty rods; I have never measured it.

Q. How far is this canal from that feeder down through the village from the river probably? A. Well, it is further in some points than others; it comes very near the river at one point between the feeder and this place; and it traverses along by the bank for a piece, which would be from twenty to forty rods away from the river; at one point it comes near the river; within three or four or five rods.

Q. What is the street that crosses the canal? A. Main street or State street; it was originally State street; it is called Main street on the other side of the river, and State street upon this side.

Q. As the canal passes below that street, how far is it from the river — it comes pretty near the river a little ways below that street? A. Yes, sir; very near the river; four or five rods.

Q. How high above the river is it? A. I should judge most below the dam in the river, between the surface of the water in both places would be ten or twelve feet; twelve feet, perhaps; from the level of the water in the canal to the surface of the water in the river, would be ten to twelve feet; perhaps a little more.

Q. From the feeder down to Main street, the canal is pretty near the same hight above the river all the way? A. Yes, sir.

Q. How far is the canal above the river up at that dam; it is not so high as that probably? A. Oh, no; I don't know; I can't tell the hight of the dam particularly; I should judge that the fall was five or six feet.

Q. Are there any manufacturing interests on the line of this canal here in the village? A. There is none at present, sir; I don't think of any; I would say, in connection with that question, that it is a splendid water power.

Q. Below Main street there is a dam in the Chenango river? A. Yes, sir.

Q. And below that Chenango dam there would be a splendid water power from the waters of the canal let into the river? A. Very excellent water power, sir, being so near the river; the hight of the canal above the water in the river would make it a splendid water power.

Examination continued by Commissioner FOSTER:

Q. The water power is limited, I suppose, to the capacity of the feeder; that is, no water comes down the bed of the canal of any consequence, on the level on which this feeder is? A. There are two locks very near together above the feeder.

Q. That would be additional water, than what came through those locks for this power? A. Yes, sir.

Examination continued by Commissioner WALDO:

Q. What is the present condition of that dam? A. It is in excellent repair; I regard it, sir, as a very permanently built dam; very honestly done, and well built.

Q. What is the present condition of the canal, through the village and south, as to repair? A. I don't know that there is any thing very near dilapidated, or giving out; I think it is in very good repair.

Q. How long since you have been over the line of the canal from here to Binghamton, or part of the way? A. It was previous to the railroad being built here; I traversed it in a packet; I have not been over it for six or seven years.

Q. The canal runs close to the Chenango all they way? A. Yes, sir; it follows the valley; it varies in places, as the river bends, and the canal bends occasionally; it runs across the river in the town of Greene, just below the village of Greene, on an aqueduct, and goes on the other side of the river the balance of the way to Binghamton.

Q. Along the line of this canal could the water be used from the canal for hydraulic purposes? A. Yes, sir; there are places where it could be used very advantageously, I think.

Q. Many? A. I don't think of but one at present; there is a very good water power about six miles below here, that could be used very readily — below the next feeder; there is a heavy lift lock there; I think it is twelve feet lift, and above that there is a very big fall.

Q. Is the canal used by the business people here in the village, for commercial purposes, to any extent? A. There are a great many stone, like flag stone, used; they boat off a good many; they carry them as far as Syracuse, and they carry them to Frankfort and to Herkimer.

Q. Those are flag stone quarried in this vicinity? A. Yes, sir; there are a number of quarries that are excellent flag stone and building stone.

Q. Those are situated on the hills? A. There is a quarry in the corporation here, that is an excellent quarry, that has been worked from one to two years; and then there is another upon the hill, about a mile and a half, where they have taken out stone for a number of years; it is a very extensive quarry.

Q. Are these stone carried more upon the canal than railroad? A. They are carried chiefly upon the canal, except they contracted here for the reformatory prison at Elmira, the large stone for the floor, etc.; those were taken by rail, I think.

Q. For the last year, or for the last two years, has there been many stone carried upon the railroad, aside from this Elmira reformatory? A. No, sir; they carry to Binghamton, as far as the canal goes that way, and, as I told you, north, they have carried stone invariably by canal.

Q. What other products are carried by the canal? A. There has been lumber heretofore, and railroad ties, etc., but the coal and stone are the heft of the commercial business done, I think; some salt and plaster, stone and limestone.

Q. They are brought from the north? A. From Onondaga county, and the limestone from Oriskany Falls.

Q. What proportion is brought on the railroad and what on the canal? A. It is wholly brought by canal — those stones and salt.

Q. What portion of the coal is brought here by canal? A. I can't say, sir.

Q. Is the railroad used for bringing coal to a large extent? A. Oh, the railroad brings coal, and Mr. Brown has furnished coal by way of the canal for the last four years, I think, and it has made a competition in the price of coal; otherwise there is no competition between the two railroads at all.

Q. The Delaware and Lackawanna Railroad has a depot in this village? A. Yes, sir.

Q. And runs alongside of the canal? A. Yes, sir; on the opposite side of the river.

Q. The Midland Railroad has a depot on the hill? A. Yes, sir; a mile out of the village.

Q. Is there any thing else that you desire to say? A. This canal is a very convenient thing here in case of fire — for putting out fires, otherwise we would have to resort to reservoirs or get more hose to get the water from the river.

Q. The river runs right through the village? A. Yes, sir.

Q. You have no village supply of water through the town? A. Oh, we have reservoirs in localities away from the river, and from the canal, made on purpose, and fed from the springs, that water the village.

By Commissioner **FOSTER**:

Q. Is there, in your judgment, any thing compensating, in case the State should abandon the canal, to a farmer, that would pay the expense of filling up that canal; in case the land is abandoned to the adjacent owners, would there be any thing compensating in the acquisition of the land to pay him for the expense of filling up canal? A. In my opinion there would not be.

By Mr. **WALDO** (continuing):

Q. Haven't you heard farmers express a willingness to take the territory? A. I have heard farmers express this opinion; that it would revert to them, and they would have the land again; in some instances they might fill it up, and think it would pay, but my opinion is, as a whole, that it would not pay; it would be too expensive.

Examination continued by Mr. **PACKER**:

Q. Have buildings, storehouses and others, been built on the canal in reference to it, and if so, to what extent? A. There are two storehouses and coal sheds.

Q. And freighting houses — Mr. Brown's building, on the other side? A. Oh, yes; there is a store — this stone building here; it is upon an open street upon the tow-path of the canal; there are four dwelling-houses on the bank of the canal.

Q. Good houses? A. Yes, sir.

Q. What would be the effect upon these buildings, storehouses, dwellings, etc., on that street if the canal should be abandoned, situated as they are, between the canal and the river? A. Well, if the residents have title to the premises, from the canal to the river, I don't know what the effect would be; the flood in 1865 — the largest flood we have ever had here—poured over into the canal, across the tow-path to the depth of twenty inches, perhaps, and gullied out the canal right by this brick building here; along there is a deep hole; it is not filled up yet at all; there would be stagnant water there undoubtedly unless there was some way to empty it off into the river, and also in what is called a cove up here, wide enough to turn boats around; that was a swamp hole before the canal was built.

Q. You spoke about there being a mill site below here on the canal; if that was used for mill purposes through the canal, and kept up, and the canal abandoned for all other purposes, wouldn't it injure this property up here, of which you have spoken, to a very great extent? A. The guard bank that is built upon the flat opposite the dam would have to be kept up; otherwise, if that should break away, it would let down the whole river into the canal here, and mght do damage perhaps; that guard bank has stood there for forty years without giving out, and how long it may stand in the future, I can't say.

Q. This mill privilege, then, would be of no value, unless that guard bank was kept up, and the channel through which the water comes from the dam here? A. The mill site would be just as good, only it might injure property.

Q. If the guard bank and all was abandoned, the mill site would be worth nothing, would it? A. By purchase of the dam and the canal to this place it might be valuable.

Q. There is a good mill site on the river, and the mill is running? A. Yes, sir.

Q. Flouring-mill and plaster-mill? A. There is no flouring done there; simply coarse grains and plaster; simply a feed-mill and plaster-mill.

By Commissioner CHAMBERLAIN:

Q. Where is this supply of water there obtained; from the river or from the canal? A. From the river, sir; it is on the opposite side of the river.

By Mr. PACKER (continuing):

Q. Would the mill site sell for any thing right opposite the mill already up? A. There is a much safer water power privilege than the river; the dam is a more permanent dam, a great deal; this river dam is liable to give out; it is undermined; the water is very deep, and there is no apron that protects it, and it has gullied under.

Q. How long has this dam stood here? A. I don't know, sir; since my remembrance; I have known it for sixty-two years.

By a SPECTATOR:

Q. What would you think the effect would be on the upper part of the village here if this water was left to stand stagnant? A. There would be miasma — no question about it at all.

Examination continued by Commissioner WALDO:

Q. If there was an outlet from the canal to the river below Main street, and the water allowed to run into the canal at the dam where it does now, would there be any effect of that kind if the balance of the canal was abandoned — would it affect the health? A. No more than it does at present.

Q. Could not the canal be emptied into the river at small expense from that feeder south, at various places? A. Yes, sir; there is one point that it could be let into the river this side of the dam, before you get here, and it could be let into the river below here without a very long ditch.

Q. And as you go south, down into the country, there would be various places where the canal would be drained into the river if it was determined to abandon it? A. Yes, sir; you could drain it; the only objection is, that the canal is built through where there were low places; the water is now deep; more than the depth of the canal, considerably.

Q. In order to prevent malaria it would be necessary to fill those up to some extent? A. I think so; I am quite sure it would be.

Q. Could you place any estimate upon the value of this water power south of Main street? A. Well, no, sir; nothing definite; it would be a matter of opinion; it would not be worth any thing unless it was used; it might be used for valuable manufacturing, and it might be worth a good deal to parties that understood the manufacture that they were going to, if they were going in extensively, for I regard it as one of the safest water privileges to be had anywhere.

WILLIAM L. BEARDSLEY sworn, testified as follows:

Examined by Commissioner WALDO:

Q. You reside in Oxford? A. Yes, sir.

Q. Are you engaged in or connected with any of the stone quarries in the town? A. Yes, sir.

Q. How long have you been? A. About thirty years.

Q. In what capacity are you now engaged — as an owner or foreman? A. Yes, sir, I lease a quarry, which I have done always.

Q To what extent have you got stone out? A. Well, some three years ago, I think, at one point, and that year it was one of our principal points — Binghamton — we sold, I think, some $20,000 worth of stone; since that time we have made our market north — Utica, Rome, Whitesboro, Ilion and all points north; Herkimer and Amsterdam and Syracuse.

By Commissioner CHAMBERLAIN:

Q. Three years ago; that was the year you supplied the Elmira reformatory? A. No; well, I think we did supply some that year; I think it was the year before; this was the Binghamton trade; about $20,000 worth; our books show we supplied at that place.

By Commissioner WALDO (continuing):

Q. That is the value of the stone there or the value here? A. The value of them there; that was my partner's report of the amount of stone sold to three or four different companies that we were dealing with there, and we were at the same time selling stone at a good many of these northern points; I have changed my location now from the company that I was connected with there, and am running business myself now; we are opening very favorably and have commenced shipping stone, and expect to ship, if there is an opportunity another year, a good many.

Q. How many men do you employ this year? A. We have only about seven or eight now.

Q. Have they been employed all summer in your business? A. Since we changed; I was one year out of the business, and then I commenced again this season.

Q. What time this season? A. About three months ago.

Q. Have you shipped any stone this season? A. Yes, sir.

Q. What means of transportation do you use, railroad or canal? A. We use both, but canal mainly.

Q. What proportion? A. Well, for time past, we have used probably two-thirds — somewhere in that neighborhood — by canal.

Q. What, this season? A. Well, we haven't shipped a great many.

Q. What portion was carried last year by canal; I mean what proportion of the stone was carried by rail and what by boat, as near as you can get? A. Last year I was in the employ of the company, and we shipped, I should say, about half or more by boat; probably more than half.

Q. And somewhere from one-half to less by railroad? A. Yes, sir.

Q. Are your quarries nearer the railroad depot or the canal? A. Nearer the canal.

Q. What about the other quarries; how do they ship? A. They ship by canal and rail both; a good many by canal; they are shipping now by canal all the time, for fear that the canal may not be in running order.

Q. Now compare this year with last year, in transporting the stone; has there been an increase of the proportion upon the rail or upon the canal, as between this year and last? A. Well, I should think it was about the same, as near as I could judge.

Q. How does the proportion shipped this year by rail and by canal compare with three years ago? A. They have shipped about the same, perhaps, as circumstances make it convenient; in some instances it is more convenient to ship by rail, because they go to points where canals won't reach; for instance, what we ship to Elmira they cannot get by canal; but those we can reach by canal, probably there is more shipped by canal.

Q. How many other quarries are there besides those that you run? A. There is a quarry that I am running, and another one to be opened in connection with it, which they have just commenced operations in; and then there are three other quarries in connection with the company that I have always been acting with before.

Q. How many men did those quarries employ this summer? A. They have employed probably, as near as I could judge, somewhere in the neighborhood of twenty.

Q. Are there any other quarries but those now actually in operation? A. Yes; there is a quarry above here about two miles that they have opened; there are two other quarries above here instead of one.

Q. Are they actually employing men now? A. One of them is, I believe, and one has not been employing men this year.

Q. How many men? A. I don't know how many men.

Q. You think the stone interest is increasing? A. Yes, sir; the stone interest has been quite extensive; we have had no less than three boats running.

Examination continued by Commissioner Chamberlain:

Q. You are acquainted with the cost of transportation by canal, from here to Utica? A. Yes, sir.

Q. And by rail? A. Yes, sir.

Q. What is the difference? A. There is not a great deal of difference, only as matter of convenience; on long transportation, where we can reach a railroad conveniently, we can transport almost as cheap as we can by canal, or quite; it is cheaper accordingly on long transportation by rail than it is on short; that is, as the competition has been between canal and rail; and as soon as our canal hauls off transporting, they raise on us on rail transportation; there is where we fear the greatest trouble; in many instances we can load better on boat; it is more convenient, generally speaking. Here is a point that I would like to speak about: when we have a prospect of having a great quantity of very large stone we can ship them on canal better than we can on rail; that is on account of the width and length; that is quite an important thing in regard to this quarry here.

Examination continued by Commissioner WALDO:

Q. How about Mr. Miller's quarry? A. That is the quarry I have been speaking about; I was with him; Miller & Beardsley, my brother.

Q. How many men does that employ? A. I don't know how many they employ this year; I think last year they had between twenty and thirty; they have not had as many this year; they had a quantity of stone on hand last year, and they have been sending them off.

Q Have you been connected with the quarries at Greene? A. Yes, sir.

Q. Substantially the same kind of stone? A. Exactly the same kind of stone; I was one of the firm.

Q. How many quarries are there there? A. The Greene quarry is the same quarry that is connected with the Beardsley & Miller; they have a quarry at Greene, one at Smithville, one at McDonough and one at West Greene; and then they have another quarry here in Oxford; there has been great shipments from that quarry in years past; more than any quarry in the country.

Q. This year? A. They have not shipped as many this year from that quarry.

Q. How many men did these different quarries employ? A. I make the estimate to be about thirty men.

Q. You mean that estimate for all these separate quarries? A. Yes, sir; aside from my own quarry here, that I speak of.

Q. That would include all these Greene quarries? A. Somewhere about thirty men; I make that in a kind of a round amount; thinking now, there is another quarry that I don't estimate in that that employs about six men — the Dutchman's quarry.

Examination continued by Commissioner CHAMBERLAIN:

Q. What are the dimensions of the largest sized stone that you ship from here? A. We quarry and ship some stone that would be somewhere in the neighborhood of twelve feet square, and some twelve by eighteen, and some eighteen by eight and six, and different size of that kind.

Q. About twelve feet the widest? A. Twelve feet square would be about as large as we have been in the habit of moving, but we anticipate taking out stone still larger provided we can boat them.

Examination continued by Commissioner Waldo:

Q. That would be about as large as there would be much of any demand for? A. Yes, sir.

Q. Is there any difficulty in shipping stone over the rail? A. You can't ship stone over eight feet on the rail; about eight feet wide is as wide as we can ship.

Q. Have you examined the locks between here and Greene lately; are you familiar with them or any of them? A. Yes; I am as familiar with them as may be from going through them very frequently boating stone.

Q. Have you noticed this aqueduct down here — the first one? A. I have not; I have not seen that in a good while.

Q. What are the condition of these locks? A. I think the condition of the locks between here and Binghamton is mainly pretty good; mostly stone; been built over.

Q. When have you been through them; have you been through them this year? A. No, sir; there is an increased demand for large stone; that was an idea that we had, and fears that we might not have the use of the canal for that very reason; we want to ship a quantity of large stone to New York; in loading all of our stone north for Syracuse and those points, it is an object to load back with plaster and lime; the boats that are out now are going to load with plaster back, and it enables us to freight a little cheaper.

Q. Your lime and gypsum are brought almost entirely by boats? A. Yes, sir; and they want to load back every time they go out.

Charles W. Brown, collector on the Chenango canal at Oxford, furnished to the commission statistics from the collector's books. Marked Chenango Canal Exhibit, No. 3.

Andrew J. Hull sworn, testified as follows:

Examined by Commissioner Waldo:

Q. You live at Oxford? A. I do, sir.

Q. Are you acquainted with the canal from Norwich to Greene? A. Yes, sir.

Q. You are acquainted with the canal from the aqueduct below Greene up to North Norwich? A. Yes, sir.

Q. You have been over that canal this spring? A. This spring I went, the first time before it was opened, and once after it was opened — twice, with Mr. Sweet, the Superintendent.

Q. With the purpose of examining the condition? A. I went where he was not able to go — down into the locks, the bottom of them, and examined the locks and gates myself.

Q. Starting with the first one at Greene? A. We found all of the aqueducts on the whole line of the canal leaking very badly.

Q. Now, as to the Greene aqueduct in particular? A. I think that large aqueduct over the river below Greene was leaking, but not any thing very serious but what could be fixed with small expense; that is my recollection about it now.

Q. Will it need to be extensively repaired or rebuilt within a short time; the water is carried over in wood, isn't it? A. Yes, sir; the piers are stone; I don't think we made an investigation of the large timbers; it was mostly the plank — as to what coating those aqueducts would have to have.

Q. What is the condition of the plank? A. There was rotten places here and there, but I think the decision was that with a little repair that large aqueduct below Greene could be made to last this season anyway.

Q. How about the locks from there up to the next aqueduct; how many locks are there? A. I couldn't say.

Q. Well, how about them generally, up to the next aqueduct? A. The next aqueduct is up here six miles below Oxford — what we call the Stratton aqueduct; oh, there was an aqueduct called the Crandall aqueduct before that.

Q. How about the locks between that Crandall aqueduct and the aqueduct below Greene? A. I don't think there is a lock there.

Q. How is the bank of the canal — does the canal banks need any repair along there? A. I don't think they do.

Q. Then as to this aqueduct, how about that? A. That was leaking from rotten plank.

Q. How long since that wood work had been put in there, do you think? A. I can't tell you, sir.

Q. How many bents is there in each one of these aqueducts? A. In this Crandall aqueduct I should judge there was about three or four.

Q. How in the one south of Greene? A. That is a large one across the Chenango river.

Q. The one south of Greene is the one crossing the Chenango river? A. Yes, sir.

Q. Then there is an aqueduct below here two miles? A. Yes, sir.

Q. Between those two is there any thing? A. Two locks.

Q. How were they? A. They were leaking very badly; it was hard work when they first let the water in on the canal to hold the water in those levels.

Q. Those two locks want a good deal of repair? A. Yes, sir; it was mostly in the lock gates.

Q. I suppose they are planked up? A. They are built of stone, and timbers put in and planked up and down; the stone of course all remain; the great trouble was, although the gates are iron they are shut round into wood sockets, that the wood work around the gates are generally rotten; then we came on up here; there is no lock until four miles below Oxford,

Q. What condition is that in? A. There are two very near together; those are the ones I am telling of, above the other aqueduct.

Q. Coming from those this way? A. The next is this aqueduct two miles below.

Q. How many bents is that composed of? A. I don't think there are over two bents in that.

Q. What is the present condition of that? A. I don't know any thing about it since spring.

Q. What was it then? A. It was leaking badly; needed repairs with plank.

Q. How extensive? A. Not very much.

Q. Have you any idea when it was last built over or last thoroughly repaired? A. No, sir; I have not.

Q. Now, above Oxford? A. The first dam you have inquired about; right above that are the two locks; they were then in bad order; the gates leaking; then there is a third lock, up by Hicks'; then there was a feeder above there where this spring you couldn't get any water below it; the creek was all dry above the aqueduct, and below it was a large creek; all the water they could get into the canal almost run right through the feeder.

Q. That would want repairs then? A. Yes, sir.

Q. Has it been repaired this summer? A. Yes, sir.

Q. Will it need extensive repairs immediately? A. I am informed that a section or two of that aqueduct, across the Canasawacta creek, went out some two or three years ago, and they built it new.

Q. Where is the next feeder? A. That is way above Norwich.

J. B. **Willoughby** sworn, testified as follows:

Examined by Commissioner **Waldo**:

Q. You reside where? A. I reside in Oxford.

Q. Have you been connected with the Chenango canal? A. Yes, sir.

Q. In what capacity? A. I have had charge of the canal between Oxford and Greene this season.

Q. You have charge of it now? A. Yes. sir.

Q. What is the present condition of the first aqueduct below Oxford? A. Well, there is one pier that I should think half of it will have to be laid over, and the aqueduct will want lining; otherwise from that it is in fair condition, that is, with planking the bridge and some stringers.

Q. How long since it has been repaired thoroughly? A. Twenty years.

By Commissioner **Chamberlain**:

Q. What would be the expense of relining it? A. I don't know as I am prepared to estimate the value of that; somewhere in the neighborhood of $300, I should say, would repair it, and put it in good, fair shape.

By Commissioner WALDO (continuing):

Q. Last how long? A. I don't know why it wouldn't last twenty years.

Q. How many bents are there to it? A. Two piers and three bents.

Q. How about the lock next below that? A. Lock 98 is in good repair; it is the first lock below; lock 99 will want one pair of gates, and the rest is all in good repair; I have been putting balance beams on the gates; lock 101 is in good condition; nothing needs to be done to that at all; lock 102 is a wood lock, and it will have to be wooded over; some part of it wants lining, and some new caps and new timbers; the gates will have to be new to that lock; that is a wood lock; lock 103 will want one pair of gates and some little lining; there are two aqueducts between here and South Oxford; the second aqueduct will want lining and some stringers.

Q. To what extent? A. There are three spans to it; two spans, I think, will want new stringers to the bridge; that is all.

Q. If they put in two stringers they will have to take out every thing? A. No, sir; I mean the stringers to the bridge; I have spoken about all the locks that I have — five; the aqueduct this side of Greene will have to be partially wooded over — will have to be lined over, any way; that will have to have some new timbers in, and will have to be lined over; they all want some lining.

Q. Now as to the aqueduct in the village of Greene? A. Well, the one in the village this way will have to be lined over, but I don't know whether there will have to be any bed timbers put in or not; I should hardly think there would, but it will want lining, and want some stringers on the bridge; all those aqueducts want more or less stringers on the bridge.

Q. How long since these aqueducts have been extensively repaired? A. I couldn't answer that question directly, but not to my knowledge in some eight or ten years — ten years probably.

Q. Do you have any thing to do with the aqueduct across the Chenango river? A. No, sir.

Q. Do you know any thing about that? A. No, sir.

Q. How about the bridges? A. There is six bridges, I think, that will have to be repaired; some of them have had a new chord, some stringers and some braces.

Q. What kind of bridges do you refer to now? A. The farm bridges and the road bridges.

Q. That is, between here and Greene? A. Yes, sir; there may be more, but not to my knowledge, that will need immediate repairing.

Q. Some of them need extensive repairs? A. There is one bridge down below Brisbin, and one below Hayne's mills, this side of Greene, that will have to be entirely new; then there is two this side; I am putting a new chord into one now; there is another bridge that will have to have one new chord, and there is one between South Oxford and Oxford that will have to have one new chord certain, and perhaps two, I couldn't say; the banks are all in good condition with the exception of about half a mile this side of Brisbin, and some leaks that ought to be filled up, which may cause a break; this side of Greene, at what is called Cooper House bend, the bank should be raised.

Adjourned.

GREENE, *September* 30, 1876.

ROBERT P. BARNARD sworn, testified as follows:

Examined by Commissioner WALDO:

Q. You reside in Greene? A. I do, sir.

Q. You are acquainted with the canal as it runs through the village? A. I am.

Q. How far is the first feeder above the village? A. Eight miles, I think it is.

Q. How far is it to a lock above the village? A. Three miles.

Q. How far to one below the village? A. About two miles; the village stands on the six mile level.

Q. How is the canal located, with reference to the river, as it runs through the village? A. Nearly parallel to the river through the village.

Q. How far from it? A. Fifty rods or more.

Q. Along the line of this canal through the town of Greene are there any manufacturing industries built up upon the canal? A. No, sir.

Q. Are there any industries that take water from the canal for use? A. There is one below here, about half a mile below the village, that has used water more or less; I don't know how much they are using now.

Q. That is by the aqueduct? A. Yes, sir.

Q. On the other side of the aqueduct? A. Yes, sir; there is a steam mill above here.

Q. Take the upper industry — which one is it? A. The steam mill is the first; below the lock the steam mill is the first.

Q. What is that for? A. It is for manufacturing lumber, shingles, spokes, etc.

Q. How long has it been in operation? A. They have got quite a large establishment there now; it has been running between two and three years; I don't know the exact time.

Q. Is it in operation now? A. I suppose it is; yes, sir.

Q. About how many men does it employ? A. I understand there are twelve men and four teams.

Q. What do they do with this manufactured product? A. They ship it on the canal mostly, as I understand, except what little is consumed here.

Q. How do they get the materials they use? A. They get that from the country around by teams.

Q. How far is this mill from the nearest railroad station? A. Practically, this is the nearest — three miles at least.

Q. This mill was built up there for the purpose of using the canal facilities? A. Yes, sir; directly; there is no doubt of that.

Q. Coming this way, what is the next industry? A. Well, there is nothing until we get down to the foundry; iron foundry; that is in the village.

Q. How many men does that employ? A. About fifteen or twenty men.

Q. Is it in operation now? A. It is.

Q. How long has it been in operation? A. Since 1840; they also conduct a coal yard; they have a coal yard dependent upon the canal for their supplies of coal for their own use and what they sell.

Q. The product that they manufacture — how do they transport it, or is it sold in the locality? A. Mostly by rail.

Q. The manufactured product is mostly transported by rail? A. Yes, sir.

Q. How is the material that is used — the iron, for instance, received? A. Railroad and canal both.

Q. What proportion? A. The iron is mostly by rail.

Q. How do they get their coal? A. By canal.

Q. The whole of it? A. Yes, sir; the coal is all by canal.

Q. That is situated right on the bank of the canal? A. Yes, sir.

Q. What other industries along the line of the canal? A. There is a lime kiln immediately below this, in the village.

Q. Where do they get their material? A. Oriskany Falls; by canal, I suppose, entirely; that is the limestone.

Q. How many men does the lime kiln employ? A. It employs there an average of at least three men; about four men.

Q. Through what portion of the year? A. During the summer season entirely — spring, summer and fall.

Q. What next beyond that? A. There is now upon the river bank, not exactly upon the bank of the canal, a plaster-mill, and they depend entirely upon the canal for their supply of stone.

Q. Where do they get that stone from? A. From Manlius and all around; they depend entirely upon the canal.

Q. Is that all brought through the Chenango canal? A. Yes, sir; and part of the Erie canal; no other way to get it.

Q. That plaster-mill and the lime kiln, I suppose, are used for manufacturing a product to be consumed here in this locality? A. Yes, sir; water lime and plaster is brought exclusively by canal.

Q. How is it with salt? A. Our salt is brought very nearly exclusively by canal.

Q. From where? A. From Syracuse; the great bulk of it; occasionally, when they have got out, they have been compelled to get a cargo by railroad; but the salt is brought by canal; perhaps I could answer that question so; it is exceptional where it is brought otherwise.

Q. Are there any other industries that you think of? A. There is also another lime and plaster-mill down by the aqueduct there.

Q. How does that get its material? A. By canal exclusively.

Q. That is a mill to manufacture plaster for this locality? A. Yes, sir; it is all consumed here as far as that is concerned.

Q. Those are all the industries you think of, except one up at the upper lock? A. Well, no; a large quantity of grain for our mill here is brought on the canal, we have a flouring and feed-mill and the grain is brought on the canal.

Q. Where from? A. From Oswego, or Utica, at least.

Q. Is that mill on the canal? A. No, sir; on the river.

Q. Is it located near the railroad? A. Well, yes; it is nearer the canal than it is the railroad.

Q. What industry is that up at the lock? A. That is a flouring and feed-mill, and a saw-mill, for custom work, and the product is sold and used in the locality and so with the saw-mill, I suppose; this upper saw-mill that we were speaking about, that is termed the steam-mill; there is a good deal of that stuff shipped off.

Q. How many men does that upper mill employ? A. I can hardly answer you; I am informed three men.

Q. What is, probably, the capital invested in that property — the upper saw-mill and grist-mill? A. Well, five to six thousand dollars, probably.

Q. Is that immediately on the line of the canal? A. Yes, sir.

Q. How does it do its carrying business? A. By canal.

Q. You have no means of knowing to what extent? A. No, sir; I have not.

Q. Any person engaged in the transportation business here upon the canals? A. Not now; no, sir; not of late years; there is one man in the village who owns two boats, and he loads his own plaster and his own grain; for the last four or five years this boating interest has dropped off considerably, because there has been so much uncertainty about the canal.

Q. What proportion of the coal used here in town is brought by rail? A. I guess there is about three-fourths that comes by rail.

Q. The Delaware and Lackawanna road runs through your village? A. Yes, sir.

Q. Has a depot in the village? A. Yes, sir.

Q. Suppose the canal was abandoned what means would there be of taking the water off of this level and keeping it out of the level; could it be drawn off down here below? A. Yes, sir; there is some places the water would stand, some places it would be dry, and other places there would be two or three feet; I don't see how you could draw the water off absolutely, unless you plow the banks and fill it in and cover it up.

Q. There is an aqueduct below the village? A. Yes, sir.

Q. That could be taken down and the water run out there? A. Yes, sir.

Q. Would it take the water out of this canal through this level entirely? A. No, sir; not in my opinion.

Q. Why wouldn't it? A. I will give my reasons; because it cuts right through a large mass of springs, and this canal as it is now excavated forms a reservoir for the collection of that water in spots along — in ponds, perhaps I should express it.

Q. What would be the effect of that upon the sanitary condition of the village? A. Very bad, in my opinion; the nature of the soil through which the canal was cut, being originally a swamp, and those springs still in existence, if this canal should be abandoned, unless filled up, in my opinion it would be a prolific source of disease — the original cause still existing, the canal now operating as a drain; should it be discontinued, unless it was filled up it would be very detrimental to the public health of the village.

Q. Is the water drawn off in the fall? A. Drawn off for a short time; yes, sir.

Q. Have you seen any effects in the spring before the water is let into the canal? A. We did this year, sir; as soon as the warm weather came on it was very sensibly smelling it; and we took steps to have it filled up with water; the board of health was called out and they regulated the matter.

Q. Is not there a place above the village, within a-half or three-quarters of a mile of this aqueduct, that the water could be drawn off again into the river? A. Oh, I suppose there is such a place up at what they call Deep Rock, but that would not affect this formation through here, from, if you please, Mr. Banks', which is half or three-quarters of a mile above here, through this village; all that is a swamp; even drawing it off there it would not affect my original statement of the springs being in existence; it is covered up and drained, but you take away this canal, which is the main drain — if you please, the main sewer — I think it would have a bad effect; this is all swampy.

Q. Wouldn't the land through the settled part of the village pay for its being filled in? A. No, sir; that is a matter of opinion; it would cost twice to fill it up what it did to dig it; there is one point here as a local matter; it is certainly a very great convenience to us for fire purposes, it is very important to us; three-fourths of our village depend upon the water of the canal for the purpose of extinguishing fires, if they occur, and it would save us the expense of many thousands of dollars in getting up another efficient water works; I don't know hardly how we would do it; it so runs that we can reach everybody's house with our hose, on each side of it; it is very important.

Q. The Chenango river runs through the village, between the railroad and the canal? A. Yes, sir; but close to the railroad.

Q. You say that three-fourths of the coal that is consumed here in town is brought by rail? A. Yes, sir; I should judge so.

Q. Now, why is this canal of any importance to you, or of any special importance to you in the transportation of coal, if you do not avail yourselves of only one-fourth? A. From this fact, that the canal is a standing menace to the price of coal to the railroad company at this point; if our means of obtaining it by the canal was taken away, we would then be wholly at the mercy of the railroad company for prices.

Q. The coal that you get by canal comes from different owners, than what is shipped over the railroad? A. Yes, sir.

Q. You claim the canal is useful to you, as a competing power, to keep down prices? A. Undoubtedly; yes, sir; up to within two or three years, half of the coal was brought by canal.

Q. You think the falling off in the transportation of coal is partly due to the canal? A. Yes, sir; I suppose there is no doubt about that; there has been so much delay that people would get desperate and say, "we must have that coal here, no matter what it costs;" it is a matter of opinion, of course; but I believe if this canal was thrown up, and we had only this railroad line, that we would pay, perhaps, two dollars a ton more for coal than we do at present.

L. E. St. John sworn, testified as follows:

Examined by Commissioner Waldo:

Q. You reside in Greene? A. I do.

Q. In business here? A. Yes, sir.

Q. For how long a time? A. Seven years.

Q. Are you on the line of the canal? A. Directly; on the berme bank.

Q. What is your business? A. Foundry and machine shop, and coal dealers.

Q. What is your power? A. Steam.

Q. Do you use the waters of the canal for any purpose? A. We get our water for steam from the canal.

Q. Any written contract from the State? A. Our water is a well; and the well is fed by the canal; when the water is out of the canal, we have no water in the well.

Q. Do you use the canal for transportation purposes? A. We do.

Q. To what extent? A. Mostly in boating coal from Binghamton.

Q. What portion of the coal you use do you bring by canal? A. Well, I may say entirely now; there is a little soft coal, occasionally, we get by rail, but the most of the coal is by canal.

Q. What amount do you bring a year? A. Well, all the way from 500 to 800 tons.

By Commissioner Chamberlain:

Q. That is for the purpose of the market? A. Yes, sir; for the market here and our own use combined.

By Commissioner Waldo (continuing):

Q. Would your manufacturing interest be affected by the abandonment of the canal? A. We think it would be injured to some extent.

Q. Why? A. Well, it would destroy the competition we have with the railroad, and make the prices higher.

Q. As to the coal? A. Yes, sir.

Q. Couldn't you afford to fill up the canal around your premises for the territory you would get? A. I hardly think we could.

Q. How many men do you employ in your business? A. From fifteen to twenty.

Q. The year round? A. Yes, sir; varies different times of the year.

Q. The iron you bring by cars? A. Yes, sir; late years.

Q. All the material you ship away, you ship by cars? A. Yes, sir; since the canal has become in poor condition, and there are but few boats running, we do not ship any.

Q. How long — for the last three or four years? A. Yes, sir; we can't depend on it, that is the trouble; very often we would send things by canal if there was a way to do it.

By Commissioner FOSTER:

Q. Before the canal got in as bad condition for navigation as it is at present, were there established lines of boats on the canal? A. There were.

By Commissioner WALDO:

Q. That was before the construction of the railroad? A. That was before the railroad?

Examination continued by Commissioner FOSTER:

Q. None since the construction of the railroad? A. No; merely freight boats running.

Q. The railroad has been constructed how long? A. Since 1871.

Q. That drove all the lines off of the canal then? A. Yes, sir.

Q. All the regular lines from Binghamton? A. Yes, sir; until within two years boats have been quite plenty, but they were not regularly established lines; but they were running back and forth.

Q. You could ship every day? A. Yes, sir.

Q. What is your opinion, in case the canal was in navigable condition; could they afford to put boats on there again so as to run regularly, with the railroad competition? A. Well, I can't answer that; that is out of my line.

Examination continued by Commissioner WALDO:

Q. The probability is there could not be any regular lines run? A. I don't suppose any regular lines would run; the coal business would have been much better this year if the canal had been in suitable condition.

Q. There is pretty good water in the canal? A. There has been since the rains came on; all the fore part of the season there was no dependence to be placed upon it.

By Commissioner FOSTER:

Q. Wasn't that in consequence of the canal being opened at so late a day? A. Yes, sir; it affected the business.

WILLIAM MOSHER sworn, testified as follows:

Examined by Commissioner WALDO:

Q. You are engaged in business here in Greene? A. Yes, sir.

Q. What business? A. Burning lime.

Q. Your lime-kiln is along close to the canal? A. Yes, sir; right on the bank of the canal.

Q. When was it constructed? A. I should think as long ago as 1836 or 1840 somewhere; soon after the canal was built.

Q Do you rely on the canal for your transportation? A. Entirely.

Q. In what respect? A. I ship all my stone by canal, and couldn't get them any other way.

Q. You bring your stone from where? A. Oriskany Falls.

Q. What effect would the abandonment of the canal have upon your business? A. I think it would ruin it entirely; that is my opinion about it.

Q. Do you mean to say you could not carry it on with the railroad facilities? A. I could not possibly ship by railroad and make it up; I am a good ways from the railroad, and have to draw it.

Q. Won't a lime-kiln along close by the railroad, using railroad facilities, furnish lime at the same rate you do? A. I think the cost would be so much more by freighting stone that it would ruin the business.

By Commissioner CHAMBERLAIN:

Q. That is, you could transport the lime so much cheaper, after it is burned, by rail, than you could the stone before it is burned A. I inquired into it a little, and I have got a kiln that holds 1,000 bushels, and it would cost me $100 more every time I fill that kiln to bring it by rail than it would by canal.

By Commissioner WALDO (continuing):

Q. That would take all the margin off? A. Yes, sir.

Q. But would it cost you that provided your lime-kiln was along on the line of the railroad? A. All the difference would be carting it from the railroad to my kiln.

Q. What proportion of it would that be? A. That would cost probably twenty-five to thirty dollars; it will make $100 difference, or nearly that by freight.

Q. How many men do you employ? A. I employ, when I am filling my kiln, four men; and when I am selling it I only employ one man.

Q. That is during the summer, I suppose? A. Yes, sir.

Q. What proportion of the time do you employ four men? A. Perhaps not over one-fourth of the time.

Q. How much capital do you consider you have got invested in your kiln? A. About $3,000; my kiln — I have been offered $1,800 for it, but I consider it worth $2,500; and I have about $1,000 in wood.

Q. Aside from your wood, what is your investment in your kiln property — your real estate and all? A. I call it worth $2,500.

Adjourned.

WILLIAM ROBERTS sworn, testified as follows:

Examined by Commissioner WALDO:

Q. You live in Binghamton? A. I do, sir.

Q. Engaged in manufacturing what? A. Stone-ware.

Q. Your manufactory is where? A. On the corner of the canal and Susquehanna street.

Q. How far from where the canal is now closed up? A. Well, I should say it was half a mile or over.

Q. What materials do you get over the canal? A. Clay, fire brick, that I sell; fire sand and beach sand.

Q. Where do you get those materials from? A. From New Jersey.

Q. All of them? A. Yes, sir; no; I get my fire-brick from Utica.

Q. You get all the other materials but your fire-brick from New Jersey, and your fire-brick from Utica? A. Yes, sir; and all comes over the Chenango canal when I can get them over there; I have been getting some clay by railroad, because the canal was in such a bad shape.

Q. How much do you bring over the canal in a year — of all materials? A. About 400 tons; about 300 tons of clay; it wouldn't exceed much, 400 tons; the balance in brick and sand.

Q. How much do you bring over the rail? A. I haven't shipped only four or five car loads over the rail; I have had some over the Erie from New Jersey, and some from Utica; I have a brother-in-law in Utica, and he ships it there in Utica for me here; a short time ago I had some clay brought by rail from Utica.

Q. Can't you bring this material as cheaply from Utica by rail as you can by canal, and cart it from the end of this canal over to your place? A. No, sir; the cartage would be about the same here from cars as it would be from the boats up yonder, and they charge me twenty dollars by car, and it costs me about four shillings to reship as you have to do there in Utica; there is no facilities for shipping directly from boats on to the cars; you have to cart it, and cart it here.

Q. How many men do you employ in your interest? A. About eight of us.

Q. The year around? Yes, sir.

By Commissioner FOSTER:

Q. What do you do with your stone-ware; ship any by canal? A. No, sir.

By Commissioner WALDO:

Q. All you use the canal for is bringing those materials here? A. That is all, sir.

Q. Four hundred tons a year? A. Yes, sir.

By Commissioner **Foster**:

Q. Where do you get your sand? A. Beach sand, such as they have there, and fire sand, and all those materials come from New Jersey; it is beach sand; it need not be necessarily from Jersey; any where along the beach there.

Q. I should suppose you might get it up on Oneida lake? A. That is different from what we get; it is not so good as Jersey sand.

Adjourned.

Utica, *October* 3, 1876.

The **Chairman** announced that the Commission was ready to hear any statements that parties desired to make in relation to the subject under consideration, the Chenango canal.

Mr. R. S. **Williams**, as one of the committee appointed by the common council of the city of Utica, in the absence of the mayor, who was the chairman of the committee, presented to the commission the report of that committee in relation to the Chenango canal, as approved by the common council.

The report was read, and marked Chenango Canal Exhibit, No. 4.

William W. **Wright** sworn, testified as follows:

The **Witness** — Mr. Chairman, with the permission of the Commission, I will read a paper I have prepared, and it will probably suggest questions which the Commissioners can afterward ask me.

Mr. Wright then read a statement, which was marked Chenango Canal Exhibit, No. 5; also read from the report of the Canal Commissioners of 1872, pages 54, 55, 56 and 57.

Examined by Commissioner **Waldo**:

Q. Has this feeder at Oriskany been used this year? A. Only a part of one day, I understand.

Q. Was it used last year? A. Never, I think, at all; I understand not; no emergency requiring it; we have had a pretty plentiful supply of water both in 1875 and 1876; but in 1876, at one time, it got low, and there was an order given to use that, but they didn't find it necessary to use it but a few hours; we supposed when this was constructed that we might occasionally find use for it; for instance, sometimes the winds would blow from the east and all the water coming in at Rome would tend the other way and you would find some trouble on this long level to get water to float the boats of six feet draft; in that case we would let the water through the creek there and that would relieve the navigation.

Q. Do you regard the supply of the waters from the Chenango to be indispensable to the navigation of the Erie? A. Most assuredly; there will be seasons undoubtedly when without them it will be impossible to navigate the Erie.

Q. Could the waters of the Chenango canal be let into Oriskany creek at any convenient point? A. Yes, sir; they can be let into the Oriskany creek by just removing the gates of an aqueduct; I don't remember just where it is; I think just this side of Oriskany Falls.

Q. How far from here? A. I don't remember.

Q. Probably fifteen or sixteen miles from here? A. Yes; probably something like that.

Q. Then all the waters of the Chenango reservoirs would go into the Oriskany creek? A. Yes, sir; and flow into the long level through that source.

Q. I understand you to say by your statement that that might be attended with consequent damages to the people owning property along the Oriskany? A. Yes, sir; it would always be liable to create pretty heavy claims against the State; suppose that to-day some great break took place — the Black river reservoirs went out as they did before — then we should have to resort to this, and it would be attended with this objection which I have set forth in my statement; the bringing down of that water would fill the banks of this creek about full — then the floods and storms — any sudden freshet would be so much in addition and be sure to overflow its banks, and be sure to create very great injury to surrounding crops, etc.; that is the reason I say it is inexpedient to feed through that feeder into the upper level, unless some great emergency demands it.

Q. Suppose the waters of the Chenango were used simply for feeding purposes, would not the expense of keeping the channel in repair be very small? A. Yes, sir; it would not be large at all.

Q. What would be the difference in the expense of keeping the supply of water between using the canal simply as a feeder and using the canal for canal purposes as well as a feeder? A. There are a good many expenses that would be common to both; the looking after all the structures to prevent any leak, or any danger of a break, would be the same in either case; and then the additional expense would be nothing more than taking better care of the locks and filling the levels so that boats could float; my own judgment is, that it might cost in addition, if you made it a navigable feeder from here say to Oriskany Falls, it might cost $4,000 or $5,000 in addition, or it might cost half of that; my own opinion is, that I would take a contract, and run the risk, for $3,000; I would agree to keep a navigation, the State sending down the water from the feeders, I would agree to keep a navigation and take care of it for $3,000; and I should think I would have a very good contract from Oriskany Falls here; from Oriskany falls to Hamilton there is a large number of locks; I am calculating from Oriskany Falls here; I think it would be a good contract at $3,000 to keep up the navigation; I want to be understood as saying Deansville instead of Oriskany Falls.

Q. If the canal was used as a feeder, either navigable or otherwise, from Deansville to Utica, would it be necessary to keep up the locks from Deansville to Summit level? A. You can pour the water down through those locks without much expense.

Q. All of the locks would not have to be maintained? A. Not in that case; you just pass the water through without any reference to locks; you would have to be careful that the water did not get away at the locks, or anywhere; you would have to look after that whether it was used as a navigable feeder or otherwise; the navigable feeder from here to the summit, including all those locks, would be a much greater expense than it would from Deansville here; if I remember right, there is about one-third of the locks in number between here and Deansville, and the rest of the number are between that place and the summit at Hamilton; I think so.

Q. If the canal from Deansville to the Erie was used for navigable purposes, as I understand you, it would not enhance the cost of bringing the water from the summit to Deansville? A. Not at all; it would be the same in either case.

Q. If we were going to feed through the Oriskany, the State would undoubtedly feed it at the place where the expense would be the least? A. Yes; well, that would be clear up at Solsville; there is only two locks between there and the summit.

Q. Then Solsville would be a better place to take the water from the Chenango into the creek than at either Oriskany Falls or Deansville? A. Yes, sir.

Q. There the creek is close beside the canal? A. Yes, sir.

Examination continued by Commissioner CHAMBERLAIN:

Q. I understood you that very little of the water that comes from these feeders now is used through the Oriskany feeders at Oriskany? A. None at all this year, except on the locks; I learned that on one day this year, when the lower end of the level was a little low for some cause or other, that they did feed by letting this water in probably at Solsville — somewhere on the line, any way — and they relieved it by two hours' feed, and they have not had occasion to do it again this year, nor did they last year.

Examination continued by Commissioner WALDO:

Q. Suppose the Chenango was kept navigable from here to Oriskany Falls, and you were supplying the water to the canal from those reservoirs at the summit, and the balance of the canal from Oriskany Falls was discontinued and abandoned to the summit, or to the entrance of these feeders; now in order to keep this canal navigable from Oriskany Falls here would it be necessary to maintain and keep in repair all those locks? A. Not at all; you can pour the water through them without any reference to repair.

Q. It would only be a continuation feeder? A. That is all; either open the gates or let it pass through the valves just as you please.

Q. Are all these reservoirs on the summit — there is six, I believe — are all those feeders indispensable, or could some of them be dispensed with? A. I don't think any of them could be dispensed with; I think the State would not be safe — it would be very unwise to dispense with any of them.

Q. All except Woodman's pond; that empties the other way —

south? A. Yes, sir; if we had no navigation beyond the summit, Woodman's pond would be of no particular use.

Q. Would the others be indispensable? A. The others would be indispensable to supply water on the Erie canal; when the Chenango canal was constructed, one of the arguments in favor of the construction of the canal was, that we could accumulate and store a large quantity of water there, which would be necessary and indispensable to the Erie canal, and we have always found it so.

Q. Now, in fact, have those reservoirs been drawn down low during the summer? A. Generally drew out pretty much all there was in them; I have generally drawn them down every year I had charge of the canal; every year I drew more or less on them, and some years I had to draw nearly all there was in them; they were drawn down during the season, and replenished during the fall rains and winter snows melting in the spring; I presume they are pretty low now; there are some seasons that we don't store one-half of the water that these reservoirs are capable of storing; if a large break should occur you would want all these sources; you would not be safe without them.

Examination continued by Commissioner FOSTER:

Q. Have you been to visit them since your term of office expired? A. No, sir; never been there since; I have only an indistinct recollection of them; it is five or six years since I have seen them at all; the year before I came in — that was 1869 — they rebuilt Kingsley brook reservoir.

Examination continued by Commissioner WALDO:

Q. If the waters of the canal were used as a feeder, simply from the summit this way, could they be utilized or made available for hydraulic purposes along the line? A. Yes; to some extent.

Q. Could they be made available to the State? A. Well, the State might lease them for hydraulic purposes at certain points, though I don't apprehend it would ever amount to much, because there are so many fine water powers in this country that are entirely unused.

Q. I was only asking whether there were any such powers along the canal? A. Yes; if the water powers had the same value they had once, if they hadn't been superseded to so large an extent by steam, they might be valuable, and might be utilized in case this canal was simply used as a feeder.

Q. If it was used for navigable purposes, it could not be so used? A. It wouldn't be so well.

Examination continued by Commissioner FOSTER:

Q. Letting alone the possibility of leasing any water power up in that region, would not it destroy the utility of the reservoirs as a feeder to have parties there who had the privilege of using that water; wouldn't they trench upon any restriction? A. Yes, sir; we have always insisted that every reservoir that supplied the canal should be absolutely under the control of the State, though in a good many cases parties owning water powers, having original rights, have used them, but they have always held them subject to the right of the State; but it makes embarrassment and trouble always.

Examination continued by Commissioner Waldo:

Q. Suppose the canal was abandoned, could the Eaton reservoir and the waters there be disposed of by the State to manufacturing interests below at much of an amount, and if so, what? A. No, sir; I apprehend not; they would say that it was worth nothing to them, especially in the present depressed condition of manufacturing.

Q. It furnishes a valuable water power? A. Yes, sir.

Q. It furnishes a valuable water power for a distance of five or six miles? A. Yes; on Eaton brook.

Q. And with the reservoir as it is now, it furnishes a steady supply? A. Yes, sir; the purposes of the State are best subserved by sending down a pretty steady supply.

Q. If the State ceased to use it, and this reservoir was transferred to private parties, it could still be used in the same way? A. Yes, sir.

Q. And furnish a regular supply to mill owners along the line? A. Yes, sir; the only objection would be, for instance, they used to shut down Saturday nights and they would increase the pond area during Sunday, and that would be sufficient to absorb all the water we could let down and leave our boats aground in the canal, and I had to put a stop to that.

Q. Did you ever notice Madison reservoir with reference to Hamilton village? A. Yes. sir.

Q. How far is it above the village? A. I couldn't say, but I should think about 100 feet.

Q. How far from the village? A. About a mile.

Q. That Madison reservoir is filled with good, wholesome water? A. Yes, sir.

Q. In case the canal was abandoned, could that reservoir be made useful for water purposes for the village below? A. I don't see why it could not; yes, sir; for the amount that such a village would consume — the amount that such a village would consume would be so inappreciable that they might use it for that purpose if the State did not abandon it; the supply would be immensely more than the village would ever use.

Examination continued by Commissioner Foster:

Q. When you are storing water for that reservoir, don't you shut off all the water? A. Yes, sir, pretty much.

Q. You don't let it run as you do the Eaton reservoir? A. Yes, sir; we do when we are storing water, but we generally do that in the winter and spring; no, I will tell you: we store our water mainly from the floods and melting of snows, when that rains in on the banks of the stream makes all they would want to use for hydraulic purposes; we accumulate it at such times that it really don't interfere very much with parties that use water there.

Q. I understood from the parties that they had a steady flow of water through the whole year? A. We have to be careful with that reservoir, if I remember right, not to get too much water in there, and I don't know but we do draw through the winter, and then just let it accumulate slowly and gradually, for fear of some accident or break; but a stream five or six miles long, when the snow was melting off, though there didn't a drop come from the reservoir, still they would have enough for hydraulic purposes running in from the valley below.

Q. I think that none of the other reservoirs are used for hydraulic purposes to any extent? A. I don't remember that any of them are.

Q. Madison reservoir must be shut off entirely to gather a supply? A. Yes, sir; many of those reservoirs have no living stream running into them; it is only a water shed; I don't know but there is a stream at this Madison reservoir.

Examination continued by Mr. ADDISON C. MILLER, of Utica:

Q. Supposing that the Erie canal should at any time be enlarged and made a ship canal, would that render the use of these reservoirs still more valuable to the State? A. It would be of still more consequence to the State; yes, sir.

Q. Is there any other supply of water in this locality from which the Frankfort level could be filled? A. No, sir; there is none; it would be absolutely indispensable, if we should make a still further enlargement or a ship canal, that we should have every foot of water that we now store on the summit of the Chenango.

Q. Now, in view of the possibilities of the enlargement of the Erie canal at some future period, what would you say as to the advisability of the State's disposing of any interest in these reservoirs? A. I don't think it would be wise in reference to that, or in reference to accidents that might occur to the canal in its present condition; if we should have any such great break as we had in the Black river reservoirs, we could not keep up the supply unless we resorted to every supply we have got on the Chenango canal, in my judgment.

Q. In distributing the supply isn't it better that the supply should be distributed along the level, instead of bringing it in, in any one place? A. Yes, sir; it would be apt to create a washing of the banks of the canal, etc., to let it all in at one place.

CHARLES H. SMYTHE sworn, testified as follows:

Mr. Smythe read a statement to the commission on behalf of the Franklin Iron Works, located at Clinton.

Statement marked Chenango Canal, Exhibit No 6.

Examined by Commissioner WALDO:

Q. Your shipments of material by the Chenango are to the Erie? A. Yes, sir; to various points upon the Erie.

Q. You ship none the other way? A. No, sir; we ship none south on the Chenango.

Q. Are you shipping any ore this year? A. No, sir.

Q. The shipments you make now upon the canal are the products of last year's manufacture? A. All this past winter, sir; our furnaces blew out in June last; that accounts, as I noticed in my letter, for our small business this year.

Q. Can you find a market for your ores elsewhere? A. We never made it a point, sir; we do not sell our ores; we manufacture them into iron.

Q. What is the capacity of your furnace? A. Fifty tons a day, sir, twenty-four hours.

Q. You use the Chenango canal for bringing your supplies of coal? A. No, sir, we do not; our coal comes by rail.

Q. Over what road? A. Over the Lackawanna road.

Q. Which passes between your furnace and the canal at your place? A. Yes, sir.

Q. The only use you make of the Chenango canal, then, for navigable purposes, is the transportation of your product — your iron? A. Yes, sir, and the receiving of magnetic ore from Port Henry, which averages from 7,000 to 8,000 tons a year.

Q. Are there extensive ore beds at Clinton? A. Yes, sir.

Q. What kind of ore? A. Fossiliferous ore.

Q. Are they sold in the markets? A. Yes, sir.

Q. Where? A. Largely in Albany, Poughkeepsie and Hudson, I understand, and some at Syracuse.

Q. How far distant are they from the line of this Chenango canal? A. They vary from about half a mile to four miles.

Q. How are those ores, when sold, transported? A. By canal; they are loaded on boats at Clinton and taken to their destination on the Erie or on the Hudson.

Q. Entirely by canal? A. Yes, sir; entirely by canal; I never heard of a pound being shipped by rail.

Q. Give an estimate of the product of those mines in 1873, 1874 and 1875 — I mean aside from your furnace? A. I understood from Mr. Elliott his average shipment was 7,000 tons a year; he is the largest shipper; Mr. Peck — he is not present — he has shipped not so much; I don't know how much he has shipped.

Q. He has shipped some? A. Yes, sir.

Q. Do these mines employ many men? A. Yes, sir; quite a number.

Q. What should you estimate to be the number of men employed in those various mines at Clinton, outside of yours? A. Well, I should say a hundred men.

Q. How long since those mines were first worked to any great extent? A. Well, twenty-five years.

Q. How is the product of those mines in quantity — how does it compare with the product ten or fifteen years ago? A. It has increased, sir.

Q. Is their a gradual increase? A. Yes, sir; up to the depression of business this year there has been a gradual increase.

Q. The present depression in the iron business has decreased the production for this year and last year? A. Yes, sir.

Q. Don't this railroad run close to many of these mines? A. No, sir; not any closer than the canal; it runs between the canal and the mines, right along side of it; all this ore that is shipped by canal is drawn across the railroad.

Examination continued by Commissioner CHAMBERLAIN:

Q. What is the difference in the cost of transporting this ore by canal or rail? A. Well, I estimate it, sir, at a dollar a ton, at least, the extra cost.

Q. I mean to Utica? A. Well, I would say that we should have to pay about the same freight by canal from Utica or Rome as we pay from Clinton.

Examination continued by Commissioner FOSTER:

Q. Mr. Smythe, you stated that you did not receive any coal by canal? A. No, sir; we do not, not of late years.

Q. Originally you did? A. Yes, sir; large amounts; that was before the construction of the road.

Q. Well, now, since the Delaware and Lackawanna and the Delaware and Hudson companies obtained control of the railroads in the Chenango valley, isn't it the fact that they monopolize the coal trades, and, with the Erie road, make a discrimination against other parties shipping coal at Binghamton? A. I think it is.

Q. Do you know the extent of that discrimination? A. I can't give you the figures; I know it is virtually driving out of the market other parties.

Q. The fact of the increased rates charged to outside parties? A. Yes, sir.

Q. And that has debarred them from coming in competition with those coal companies? A. Yes, sir.

The WITNESS — Mr. Cook, a shipper at Clinton, was unable to be here to-day, but he gave me a memorandum of the cargoes he had received and shipped over the Chenango canal in the last three years to submit to you.

Marked Chenango Canal Exhibit, No. 7.

WILLIAM S. BARTLETT sworn, testified as follows:

Examined by Commissioner WALDO:

Q. You have been interested in navigating the Chenango canal? A. Yes, sir; ever since it was built, nearly.

Q. You are somewhat familiar with the business of that canal? A. Yes, sir.

Q. Is there any capital, and if so, what amount, invested in boats on that canal by parties living along on the line of the canal? A. I know of very few; I know but few boats owned along the line of the canal; boatmen come there from otherwheres, and from all over, as occasionally required; some boats are owned by men that reside along the canal.

Q. But those boats are old boats mostly? A. They are not new.

Q. Upwards of five years old, probably? A. Probably the most of them are; I don't think there is a great amount of capital in boat stock along the canal by residents living along the valley; they come from the Black River canal and from everywhere, wherever there is occasion to come.

Examination continued by Commissioner Foster:

Q. Originally there were lines of boats established on that canal? A. Yes, sir.

Q. They continued up to the time that the railroads were located there? A. I think they did; there were regular lines running to Norwich, and all the way through up to about the time the railroads were opened.

Q. Do you know whether the boats were run by the people who comprised the line, or whether some of them were owned by parties outside? A. I think they were; they owned a fair stock of boats, and then when there was a pressure of business they would hire other boats; they would put other boats in the line whenever business was pressing; they had quite a line of boats of their own; I think there was more than one line; I think there was a Norwich line and a Chenango lake boat line, which was quite a noted line for a great many years, running from Binghamton through to New York.

C. W. Frost sworn, testified as follows:

Examined by Commissioner Waldo:

Q. You are engaged in milling business at Oriskany Falls? A. Yes, sir.

Q. To what extent do you purchase materals? A. An average of a thousand bushels of grain a week.

Q. The product of that is for local consumption? A. Yes, sir; we ship it on the railroad again, a good portion of it, through to Binghamton, Norwich, Oxford and Greene.

Q. You bring your product by rail and ship it by rail? A. Yes, sir.

Q. You desire the canal to be kept open for what purpose? A. It costs ten cents a bushel more to ship it by rail than it would by canal, if the canal was kept in order.

Q. Does your transportation of your product cost you more? A. In the same proportion.

Q. Why don't you use the canal then, rather than the railroad? A. For the reason that it is not navigable; some times we will start a boat from here, and it will be six days getting to Oriskany Falls; the usual time is two days; there has been no water, and there are bars, and the locks are in bad condition.

Q. You have used the rails ever since the construction of the road? A. We have been there three years ago last April.

Q. Well, ever since you have been there engaged in this business? A. Yes, sir.

A. **Sickenberger** sworn, testified as follows:

Examined by Commissioner **Waldo**:

Q. You are engaged in business at Oriskany Falls? A. Yes, sir; and at Utica.

Q. Business of manufacturing lime? A. Yes, sir.

Q. Where do you get your stone? A. Oriskany Falls, sir.

Q. Do you use the canal? A. Yes, sir.

Q. For what purpose? A. Getting my stone from Oriskany Falls here.

Q. Do you ship any of your stone by rail? A. No, sir.

Q. How many stone do you ship by the canal? A. I have got a boat of my own going from spring to fall regularly, just as fast as it can go, all the time.

Q. You employ one boat in that business constantly, between here and Oriskany Falls? A. Yes, sir.

Q. Can you ship it cheaper by canal than rail? A. Oh, a good deal.

Q. What is the difference? A. Well, ten tons costs me about fourteen dollars and forty-five cents by railroad, and a boat load costs, expense of toll and all, about thirty-five dollars; that would be eighty tons.

Q. If you did not use the canal for boating this material here, would you use the stone up at Oriskany Falls, and make it into lime there, and bring the lime down by rail? A. Yes, sir; but I couldn't make it pay.

Q. That is, it would be attended with more expense? A. Oh, yes; I have got two kilns here and one out there.

Q. If the canal was abandoned, or rendered unnavigable, would you have to stop your lime kilns here? A. Yes, sir.

Q. But you could use the stone out at Oriskany Falls — make it into lime there and bring the product by rail here, couldn't you? A. Yes, sir; I would have to build some kilns there; I have got but one kiln there, and I would have to build three more kilns.

Q. The result of the discontinuance of the canal would be that you would have to make your product out there instead of here? A. Yes, sir; but I couldn't do any business; I have got a kiln out there; but the lime made there I sell around the country.

Q. The lime you make there is used around the country there? A. Yes, sir.

Examination continued by Commissioner **Chamberlain**:

Q. The stone you use in the lime kilns here is brought wholly from Oriskany Falls? A. Yes, sir; the whole business hangs on the canal; I employ about forty hands; keep a yard here.

Examination continued by Commissioner WALDO:

Q. How many hands do you keep out there? A. About five; from thirty to thirty-five here; keep seven horses in the yard drawing out stuff all the time.

ADDISON C. MILLER sworn, testified as follows:

Examined by Commissioner Waldo:

Q. You reside in Utica? A. I do.

Q. And are familiar with the location of this Chenango canal? A. I am, sir.

Q. And of the State Lunatic Asylum? A. Yes, sir.

Q. Does the asylum use this canal for obtaining water for its uses? A. The asylum formerly obtained their entire supply of water from this canal.

Q. Up to what time? A. Up to about six years ago, I should think, sir; all the supply they had, excepting their rain water, which they caught upon their premises; the asylum is located upon much higher ground than the canal, and it was forced up by means of a pump run by a water-wheel, which was propelled by the water running around the waste-weir, I think, of the fifth lock.

Q. Did that run so in the winter? A. Yes, sir; there was always water enough coming down there, excepting in extreme cold weather, and then they run it by a small steam engine.

Q. When did they use the steam engine? A. In the latter part of the winter — extreme cold weather; there is always a stream running down this canal in the winter time, and by shutting the gates, they would keep that running full, and in extreme weather in the winter time they forced it up by means of a steam engine.

Q. Since then what have they done? A. Some six years ago the State appropriated some six or seven acres of land off of what was known as the Jewett farm, located perhaps a mile above their pump-house, and there developed a spring of water, and brought the water down in pipes from the spring to the pump-house and it has been from that point forced up to the asylum, by means of a pump run as formerly; run by this water-wheel from the water of the waste-weir of the canal.

Q. Is there a city water-works? A. Yes, sir.

Q. Have they extended their pipes out to the asylum? A. I think they have extended the pipes in front of the asylum grounds; the building stands back about 500 feet.

Q. Would there be any difficulty in the State asylum having its supply through these water-works — making arrangements by which the Utica water-works could furnish the supply? A. They doubtless could by paying for it, the same as other people.

Q. Suppose the canal was abandoned, could not the canal be sold — a portion of it — to this manufacturing company, the Utica Mills? A. I suppose that if the canal should be entirely abandoned, that the factories here — the woolen factories and the cotton factory together, would be very glad to purchase the prism of the canal, from the junction of the Erie canal as far up as the Sauquoit creek, a distance of perhaps three miles.

Q. For what purpose? A. The creek running through the valley there is a great deal of water coming down there, and the woolen mill would like the upper part of it for the purpose of storing water and making reservoirs to supply them with water; while the cotton mill would like the two lower levels, hoping to make arrangement with the State whereby they could pump water from the Erie to fill those levels and, using the low pressure engines as they do, exhausting back into the canal, it would last them for many weeks; it would be greatly to the advantage of the cotton mill to own the two levels, the one directly opposite the mill and the one above, in case the canal should be abandoned; by putting in a pump there and making arrangements with the State, they could fill those levels and keep them full, and it would require but very little loss of water from the State, running as they do and using the water over and over.

Q. If your mills had that property in that way, the sanitary danger would be obviated? A. I think it would, sir.

Q. Is there any thing else that you care to call our attention to? A. In regard to the statements made by the city authorities here, there might be a little conflict of interest, in case of the abandonment of the canal, as to the control of those levels; our mills would greatly hate to be subjected to the dictation of the common council.

Q. You think your mills would prefer to make a purchase to having the State cede it to the city? A. We should, sir; not objecting, however, to giving the city the right to continue the sewers which they want — and that is the only use they could make of it, possibly; and that could be done and yet accommodate the mills; and that should be done, doubtless, by a joint arrangement between the mills and the city.

Examination continued by Commissioner FOSTER:

Q. You have got a flowage of water through the canal now? A. Yes, sir.

Q. Wouldn't you consider that more healthful than it would be to pump water from the Erie Canal and let it stand there? A. Yes, sir; undoubtedly it would be better to have a fresh current of water running through it; as it is now, it is a place of deposit for every thing, and if the mills had it they would keep it clear, and then the city would have the power of constructing sewers, etc.; if the mills had this water by arrangement with the State, it could be made useful to the city for fire purposes, the same as now.

Adjourned.

See, also, testimony of George Williams, Black River Canal Testimony, volume 1.

ROME, *November* 23, 1876.

Dr. JOHN P. GRAY sworn, testified as follows:

Dr. Gray presented a statement from the managers of the New York State Lunatic Asylum, at Utica, which was read to the commission and marked as an exhibit.

Examined by Commissioner WALDO:

Q. You are connected with the Utica asylum? A. Yes, sir; I am the superintendent of the asylum, and entirely familiar with the whole subject and the necessities of the institution.

Q. You get your water supply from where for the asylum? A. From springs located about a mile directly behind the asylum, but a mile and three-quarters by the route that the pipe is obliged to take; that land is owned by the State, about nine acres lying on the Chenango canal; they say there (referring to the statement above alluded to) the tenth lock, but it lies on the eighth level and extends above the ninth lock into the level above.

Q. And on the north side of the canal? A. On the north and west side.

Q. That water is taken in pipes? A. That water is collected by ditches to one point on the canal, it being a large gravelly basin, surrounded by clay; the outlet of that basin being at that point on the canal, and there a large reservoir — it is built under ground a number of feet below the canal — receives the water, and it is taken from there in an iron pipe, on the line of the canal and within the boundary of the blue line, to the fifth lock, and from there pumped up to the asylum by the water discharged around the lock.

Q. Propelled by the waters from the lock? A. Yes, sir; that is not only on the margin, but at this point that I speak of the canal embraces the entire outlet, so that as an illustration of how it is contained there; I think it is three years ago; I won't be positive; it is three or four winters ago, when the water was cut off by an accident to the canal in the winter above the first aqueduct, and it was entirely emptied above; then the water poured from this springy land into the eighth level so as to keep that canal full down to the fifth lock all winter, showing the vast volume of water, and that the canal really received before, under ground, the water coming through this great gravelly basin.

Q. How large is the pipe from the pump? A. It starts at nine inches, then eight inches for 400 feet — that is, inside bore — then for nearly 5,000 feet it is six inches.

Q. What is the size of the pipe at the asylum? A. Six inches.

Q. Does it furnish a continuous stream? A. Yes, sir; a continuous supply of water; we use, ordinarily, about 80,000 gallons a day; that does not furnish us with water either for other purposes that we desire — that is, for irrigating the garden and lawns; this 80,000 gallons is a necessary use within the building for the twenty-four bath rooms and the twenty-four water closet rooms, and all the washing and scrubbing and flushing of drains.

Q. Is this wheel at the canal propelled through the winter by this water? A. Yes, sir.

Q. It don't freeze up? A. No, sir; the water runs in the canal during the winter from the summit level near Hamilton, and the canal commissioners have always seen that the water was brought down, and when it failed, have attended to that matter, and got it down expressly for the use of this asylum.

Q. How much higher is the asylum than the canal of the fifth lock? A. The top of the spring is almost level with the basement floor of the asylum, but the water falls to the fifth lock forty-two feet, and then has to be pumped up; the immense hill there would entirely prevent it being taken by any short route — an immense hill embracing a great lime and cement hill.

Q. Is it a hill in which is rock? A. Yes, sir; limestone and slate rock; this Utica shale is found within a very few feet of the ground; we have made investigation.

Q. Did you ever have any investigation as to the expense of sending it direct from these springs to the asylum? A. After looking over the ground it was deemed utterly impracticable, and would, undoubtedly, have cost more than to take it around; there is another point that I suppose I ought to speak of — whether we could get water any where else, I do not think we could get a supply from any other source.

Q. The Utica city water-works? A. I don't think we could get a supply from the Utica city water-works, and they have, invariably, in the summer, shut off the water from consumers, at times, which would be disastrous to the asylum, both as a sanitary measure, and would leave a property worth a million of dollars to the State, to the prey of fire at any time; and there would be so little pressure there from any water, that they would send to us that it would not reach our tanks in the attic.

Q. How far is the main of the water-works from you? A. They run a branch of the water directly past, and we take some of their water for our lawn; we supplement for the care of the lawn, and we have a hydrant for defense at the entrance there.

Q. You have no difficulty now in sending water to your tanks in the upper story? A. None at all.

Q. And in keeping all your tanks supplied with water constantly? A. No, sir; and this water is pure water; there is a question whether the city water is pure; it has been discussed by our citizens; it being largely an accumulation and storage from rains — the city water; we were very anxious not to adopt this course, but to get the water from the city if we possibly could, but an investigation was made at that time under the direction of the State Comptroller by the State Engineer, Mr. Green being directed to do the work, and he investigated the water supply of the city, and reported that the city could not supply us with water and supply itself; that its sources were limited and not sufficient for the purpose; I would like to make the statement that in case the canal is abandoned, in order to retain the supply of water, it would be necessary for the State to retain power entirely over the line of the canal, and the canal bed from the tenth lock, including the ninth level, to the fifth lock, including the level below it, or perhaps about 200 feet below the fifth lock; the simple matter of power could be supplied by a steam engine undoubtedly, but I doubt whether we could obtain the supply at all.

Q. This is good water for all kinds of purposes? A. Yes, sir; it is soft water; it is good for washing clothes and every thing.

Q. You cannot really supply it in any other way? A. No, sir; no comparison with the city water as to purity.

Q. How is the city water? A. I don't think the city water is pure water.

Q. Aside from that how is it? A. Oh, it is hard water; as an illustration, the engines at the cotton mills — their engines are low pressure engines, and if the canal is empty and they have to draw from the water-works when they put their engines on the city mains, they reduce the pressure so as to prevent the supply to the asylum, even if the main was extended to the building.

Examination continued by Commissioner Chamberlain:

Q. Doctor, you estimate the expense of raising this water to the asylum at what per year by steam? A. It is nothing to us now, or at least very little; well, it would be about 300 tons of coal a year, and then the necessary expenses; it would require about $2,000 a year, I suppose.

Q. What is the expense now attending it? About twenty-five dollars a month.

Examination continued by Commissioner Waldo:

Q. I think you stated that this supply was a continuous supply through a six-inch pipe? A. Yes, sir.

Q. And you consume it all? A. We consume it all, and we would like to have one-third more to accomplish the best results, and we are making provision to increase that as far as possible.

Q. There is little expense of construction? A. Nothing but a simple water-wheel and pump.

Utica, *October* 3, 1876.

George Williams, sworn, testified as follows:

Examined by Commissioner Waldo:

Q. You reside at Whitestown? A. Yes, sir.

Q. Interested in business where? A. Whitestown; manufacturing; I am a lumberman; I have a steam planing-mill and saw-mill in connection, at Whitestown; I saw from a million to a million and a half of logs every year, and about 1,000,000 feet comes from the Black River canal; comes from the Black river region; about 1,000,000 feet of my stock for the year comes over that canal, and I cannot possibly stock my mill unless I have the use of the Black River canal, for I cannot get my logs by rail; I am interested in the Chenango canal also, but only as a means of delivering the products of my mill; I am manufacturing all kinds of business materials — mouldings, doors, sash and blinds — and I frequently send my products up that canal; I have sent it as far as Oriskany Falls; never any further.

Q. How long since you have sent any up there? A. I don't know as it has been to Oriskany Falls, since the year before last; last year it went several times to Clinton.

Q. Do you ever have occasion to send a whole boat load? A. I have sent whole boat loads; no, not a whole boat load; I have sent say thirty or forty tons.

Q. Can't you as cheaply send it by rail if you only send part of a boat load? A. No, sir; but that is not a matter of so great consideration with me; I could get along without that, but the other matter involves just an abandonment of that part of my business, and it is the best part of it.

Q. Don't you ship up on the line of that Chenango canal more by rail than you do by boat? A. Yes, sir; I think I do.

Examination continued by Commissioner FOSTER:

Q. Were you engaged in business there before the railroads were constructed out of the Chenango valley? A. No, sir; in 1869, I built my mill; and have been stocking it since then with logs.

Q. What is the comparative price as between the railroad freight and tonnage on boats in that section? A. I don't know, sir; I don't think I have ever sent any thing up that canal by boat, except what I sent on my own boat, and whatever I shipped to deliver there, the freights were paid at that end with the bills, in such a way that I have never noticed it.

Q. Whas power do you use? A. Steam power.

Q. The abandonment of the Black River canal you consider would be the close of your business? A. Yes, sir; I should not undertake to run it at all or keep a set of hands for it if I could not get my logs, and I can't get my logs unless they come from the Black River canal.

Q. How many hands do you employ in this part of your business? A. It takes five men to run my saw-mill.

Q. Don't you use this material for your mouldings and other departments of your business? A. No, sir; I have only used it for rough lumber.

Q. Are there any other parties in your neighborhood, that are transporting any materials on the Black River canal? A. Nothing of that character; there is a saw-mill at Rome that depends upon the Black River canal.

Adjourned.

BOONVILLE, *October* 6, 1876.

S. F. GARMON sworn, testified as follows:

Examined by Commissioner WALDO:

Q. You are superintendent of the Black River canal and Black River improvement? A. Yes, sir; Black River canal and slack-water navigation; it goes by that name.

Q. How long have you been such superintendent? A. It will be three years the first of February; two years ago last February.

Q. You reside where? A. In the town of Watson, Lewis county.

Q. You have been over the canal this summer? A. Yes, sir; a number of times.

Q. Does your division extend to Rome? A. From the Erie, at Rome, to Carthage.

Q. Starting at Rome and coming this way, what is the condition of the canal from Rome to Boonville, as to repair? A. Very good.

Q. There are how many locks? A. Seventy to here (Boonville).

Q. In what repair are they? A. Good.

Q. What is the lift of these locks? A. An average of about ten feet.

Q. What kind of locks are they? A. Stone; all of them.

Q. How are the bridges between here and Rome? A. In good repair.

Q. Are there any aqueducts? A. Yes, sir.

Q. How are they? A. They are in fair condition; they are all stone abutments and piers, with wooden trunks across.

Q. A large portion of the water from the summit, here at Boonville, is let off at Lansing creek? A. Yes, sir; waste-weir above lock 70.

Q. What proportion is let into the creek? A. In a general way we calculate about three-fourths.

Q. That goes into the Mohawk? A. The Lansing Kill empties into the Mohawk at Western, and passes to the Mohawk at Rome.

Q. By means of a dam across the Mohawk all this water can be turned into the Erie canal? A. Yes, sir.

Q. The entire amount? A. Yes, sir.

Q. Starting from here and going up the Black river feeder; how is the condition of that feeder? A. Good; the banks are in very good condition; there are a few places that ought to have some more strength, and we are going to put more strength on it this fall. That feeder is made by turning the waters of the Black river into it by a dam at Forestport.

Q. That dam is what kind of a structure? A. Well, its anchorage is of stone, center abutments of stone — or pier you might call it — and a wooden dam between; the exact style of that dam I don't know; it is a timber dam, but it is not a tree dam.

Q. What is its present condition? A. Good; we keep putting in gravel into that dam; we take gravel from here and put into that dam; that dam is almost water tight, and won't need repairs for a good while; we put slash boards on it, when it comes a dry time, about eighteen inches above the dam, so as to be sure of any water that runs over it.

Q. What is the condition of the reservoirs above? A. The condition of the reservoirs is good, except South lake; South lake needs new discharge pipes; they are wood, and have been there twenty odd years, and are very tender and rotten?

Q. What is the balance of the dam? A. Gravel; in good condition; first rate; heavy retaining wall.

Q. Do you regard the condition of that South lake dam at present as safe? A. Perfectly safe, except if those big wooden tubes that are there should crush in, that dam would all come out with a heavy rush of water; I did not fill that dam full last year for fear of that, but the rains we had after the snows were all gone were sufficient to fill it up.

Q. Did you ever make any estimate of how much the expense would be to fix that? A. Yes, sir.

Q. What is your estimate? A. Well, it will cost about $4,600 if the dam has to be cut open to put the pipes in and take the wooden trunks out; if they can be put up through those present shutes and secured there, they can be put in at a probable expense of $2,500; that includes iron pipes.

Q. That is all the repairs that are necessary? A. Yes, sir.

Q. How is it about North lake? A. North lake is in good condition; every thing is all right at North lake, except the difficulty of handling those gates; those are a tedious thing to handle; now, North lake is all right, except after there is eighteen feet head of water that dam will commence leaking, and always has ever since it was put in, and last spring that leak apparently was larger than it had been some years before; it is not a very serious matter, at all events, to dig down to the eighteen feet head and put on concrete there; that is sufficient.

Q. You think that could be remedied by putting on additional concrete? A. Yes, sir; and it is not certain to my mind at all that it needs that; the strain is not heavy after you get above eighteen feet.

By Commissioner FOSTER:

Q. How much more is it capable of holding if it was perfectly tight? A. We fill it.

Q. To what height? A. Twenty-six feet.

By Commissioner WALDO (continuing):

Q. There is eight feet of the surface? A. There is eight feet of the surface.

Q. Is there water enough in the natural streams to fill that during the season? A. In the spring we never shut down those gates until the spring is pretty well gone; the water shed of that reservoir is larger than all the other reservoirs; the water shed, if I mistake not, is four times as large as Woodhull, and Woodhull is larger than the other three.

Q. That reservoir fills very readily? A. North lake fills readily;

you take a heavy rain storm in the summer and it fills that reservoir one-half or two-thirds full.

Q. How about Woodhull reservoir? A. In good condition; first rate.

Q. In every respect? A. In every respect.

Q. Going from here to Lyons' Falls, what is the present condition of the canal? A. Good; first rate.

Q. Locks? A. Very fine condition.

Q. And all the way from Lyons' Falls to Carthage? A. From Lyons' Falls to Carthage there is slack-water navigation; there are two locks and dams on that slack-water navigation, and below those dams there is a difficulty with bars forming every spring and fall; there is a dredge we work there during the season; there is one bar we had to dredge this summer; we take and dip one cut right up, and throw it this way, and dip another up and throw it out the other way; take about a fifty-four or fifty-six feet channel through this bar; the structures are in good repair; those locks are wooden locks, however, but the lift of them is only between four and five feet; there are two of those locks.

By Commissioner FOSTER:

Q. How long since they were built? A. One of them has been built seven or eight years this season, and the other some ten or eleven; I won't be certain but it is twelve, the upper one.

Q. How are the bridges? A. In good condition.

Q. All the way? A. All the way; there is a swing-bridge at Glendale that ought to be rebuilt, although it is perfectly safe, and the bridge at Carthage is in very bad shape, but not unsafe; it is a wrought-iron bridge, too.

Examination continued by Commissioner WALDO:

Q. How many assistants do you have on the whole of this canal? A. Two special foremen.

Q. At what salary? A. A hundred dollars a month; the canal has been for years in three sections, with three superintendents; on what was section one, from here to Rome, I have a special foreman; on what was section two, from Lyons' Falls to Forestport, there is another foreman; from Lyons' Falls to Carthage, formerly section three, that I take charge of myself, because I live about the middle of it.

Examination continued by Commissioner FOSTER:

Q. Those dams on the river are, in your judgment, perfectly safe? A. Oh, yes; those are magnificent dams; they are tree dams.

Q. How high are they? A. I think the upper dam is just five feet lift in low water, and the other one four feet and eight or nine inches.

Q. How is the river, very precipitous, or does it flow back a great distance? A. The upper dam sets the water clear back from Otter creek to Lyons' Falls, and the other one sets back to that dam.

Q. About what distance, each of them? A. It is about nine and a-half or ten miles from Lyons' Falls to the Otter creek dam, and about six miles from there to the next one.

Examination continued by Commissioner WALDO:

Q. What proportion of the water goes from this Booneville summit north to Lyons' Falls? A. I couldn't give that except from Mr. Beach, and such men, who have computed it.

Q. Well, estimate it — what proportion as compared with what goes the other way? A. I think about one-seventh; I am not certain however; I think it is about one-seventh.

Examination continued by Commissioner CHAMBERLAIN:

Q. Mr. Garmon, in case the legislature should see fit to abandon this canal, would the water from these feeders up north be fed to the Erie through this Lansing Kill creek — all of it? A. Not without damage; the State would be liable for damage; the water could all be put out there at the creek by increasing the capacity of that waste-weir.

Q. Well, you say about three-fourths of the water that is fed into the Erie from these reservoirs is now fed through Lansing Kill creek? A. That is my judgment, in a general way.

Q Is this half-gate, left open in the canal gates, left open for the purpose of feeding the Erie now? A. For the purpose of feeding the Erie, in the main; we design taking all the water we can through the canal, without injuring the canal, so as to relieve the creek in case of heavy shower, coming on, and the like of that; they claim it would overflow lands below; our policy is to let all the water we can run through the canal, without injuring the canal.

Q. In case the canal was kept open simply as a feeder, would it be necessary to maintain these locks? A. I think it would.

Q. All of them? A. Not all of them, I think, but a large portion of them; I don't see any way they could keep the canal without, this would all wash out, there is so much fall to it — about seven hundred feet fall; nothing but solid rock can stand that pressure of water.

Q. That is, provided all this water from those reservoirs was fed through it, I suppose you mean? A. Yes; or one-half or one-third of it — either one; it would take the lock-gates right out of this canal from here to Rome to put one-third of this water down through there, and it would tear it all to pieces in a very short time; I don't think it would stand it a week.

Examination continued by Commissioner WALDO:

Q. What would be the expense, annually, of keeping the reservoirs and the dams connected with the Black River feeder, and the channel from there to the Erie, in order, if the waters were simply used for feeding purposes to the Erie canal? A. From $15,000 to $17,000.

Q. Have you carefully made estimates in reference to this expense? A. I have with a view of satisfying myself how much the expense would be.

Q. In that you shut off the water going north, do you? A. Shut off the water going north — abandon this canal for navigation, and simply catch this water and store it up there in those reservoirs and take it from there and deliver it to the Erie canal.

Q. Within that estimate would you deliver any water through the prism of the canal from here to Rome? A. Yes, sir; otherwise the State would be liable for damages to those land holders on the creek.

Q. What do you include in your estimate there — ordinary repairs? A. Things that ordinarily occur; ordinary expenses.

Q. Rebuilding a dam, if it became necessary? A. No, sir; if one of those dams goes out, or if one of the banks up this feeder should drop out, it has got to come outside of that.

Q. Do you include putting in new work for one of these reservoirs to let the water pass out? A. No; I would include ordinary repairs on gates costing twenty-five, fifty or a hundred dollars; outside work I would not include; any break that might occur on this feeder, which is very liable, or on those dams, would have to come outside of that.

Q. Would not the repairs be considerably large, any way, from the summit here to Rome on those locks, even if the canal was not used for navigation? A. Oh, yes.

Q. What would your estimate be of the difference of expense of keeping those locks in repair, between using it as a feeder and using it for navigation? A. I have got that estimate in the office at Lowville, I think, itemized out, and will procure it.

Examination continued by Commissioner Foster:

Q. I will ask you a general question; in your estimate, taking into general view the safety of the navigation from here to Rome by the canal, as compared with the dangers to this feeder, is it not probable that the feeder portion from here to the dam would cost more than it would to keep the navigable portion in repair? A. Yes, sir; you have got to keep a State scow on this feeder if it was used just for that purpose, and a full crew there, to take care of that feeder.

Q. The dangers in procuring this water by a feeder are greater than they are using it for a canal; that is, the liability to expense is much larger in keeping up that portion of it than it is the navigable portion? A. No; I don't understand you exactly.

Q. Well, I look upon it as a necessity that this feeder be continued to supply the Erie canal? A. Yes, sir.

Q. Now, the State is liable to more expenses for keeping the feeder up than it is keeping up the canal? A. No; you have got to keep men to take care of it all the time.

Q. In regard to the possibility of future outly, the outlay of expense is more probable on this feeder than it is to keep this canal from here to Rome? A. Oh, yes; very much more.

Examination continued by Commissioner WALDO:

Q. Would there be any probable danger of injury to real estate on the line of this Lansing Kill creek, or the Mohawk, if the entire waters coming through the Black River feeder, went through the Lansing kill instead of a portion of them going through the canal? A. Oh, yes; I think, probably, there might be danger of loss to the people by damages.

Q. You think the whole amount of that water could not be carried through the creek without possibly making damage? A. Without some damage; it is almost certain to make some damage, for the reason you throw the whole water in there; you let a sharp thunder shower, for instance, be added to it, and it will flood them all over in that locality.

Hon. WALTER BALLOU, of Booneville, filed with the Commission a report made by a committee, signed by L. W. Fiske, C. S. Phelps and J. S. Comstock, dated February 26, 1875, and also another report made by Nelson J. Beach, of the date of March 3, 1875, as containing correct statements in reference to the business interests along the line of the Black river. Marked Black River Canal Exhibits 1 and 2.

JOHN ANDERSON sworn, testified as follows:

Examined by Commissioner WALDO:

Q. You reside where? A. Boonville.

Q. Are you familiar with the line of the Black River canal and Black River feeder from here to Forestport? A. I am.

Q. What manufacturing industries are built up immediately on the line of the canal at Forestport, or between there and Boonville, and at Boonville; commence at Forestport; what is the first one? A. In the first place there is one at Bellingertown; then there are two steam-mills at Forestport at the State dam.

Q. Go back to the first one — that mill at Bellingertown; is that a saw-mill simply? A. That is a saw-mill simply.

Q. Is its products sent over the canal? A. Yes, sir.

Q. Sent down the Black River feeder? A. Brought to Forestport and shipped from there.

Q. All of it? A. Yes, sir.

Q. What is the capital employed in that? A. Well, the capacity of the mill is about 1,000,000 of feet a year; I don't know how much capital they have got.

Q. How many men does it employ? A. That I don't know; I can only give you the capacity of the mill for business.

Q. That is a mill that manufactures lumber for transportation? A. Yes, sir.

Q. Well, the next one? A. Then we come down to Weed's mill.

Q. Is that above the feeder dam, also? A. That is above the feeder dam, also; that is not on the river; it is on a stream emptying into the river.

Q. What is its capacity? A. Two millions of feet a year.

Q. Where does its products go? A. To Forestport.

Q. And shipped on the canal to Rome and farther? A. Yes, sir; any where they can sell it.

Q. Its market is toward Rome rather than north? A. There is no lumber goes north; then we come to the two steam mills located on the Black River dam.

Q. The feeder dam? A. Yes. sir.

Q. What is their capacity? A. I should think they cut out about 2,000,000 a year, or more, apiece; they run fcr eight months in the year, right along.

Q. All that produce goes over this canal? A. Yes, sir.

Q. Suppose the canal was abandoned, how far would it be for them to draw their product before they would reach any means of transportation? A. They would have to draw it three miles to the railroad at Alder creek station — that is the Utica and Black River Railroad.

Q. Are any of these lumbers shipped over the railroad? A. There is a small portion in the spring and winter when the canal is not in operation.

Q. All these mills been running the last two years? A. One of the steam mills was built this last summer.

Q. All been running this year? A. Yes, sir; running now.

Q. Coming this way from those mills, what is next? A. Then there is Horay's mill, about six miles east of Forestport; the lumber from that mill is also put on to this State dam and shipped there.

Q. How far is that mill from the Black River railroad? A. That is nine miles.

Q. There isn't any station up nearer to them? A. No, sir.

Q. What is that product? A. About a million and a half; then you come to another mill within four miles of Forestport; Joseph Ano's mill; that has a capacity of 2,000,000 of feet; I think they saw that there every year.

Q. These mills are both in operation? A. Yes, sir; then there is Nichols' mill; his lumber is also taken to Forestport.

Q. What is his capacity? A. His capacity is 1,000,000; then there is a mill that has not been in operation, on Bear creek; it will be in operation another year; about a mile from White Lake Corners, you crossed over the creek there; that has not been in operation in two or three years, but will be now this next spring; then there is still another mill at Long lake, where they can saw 2,000,000 a year; that also comes out to Forestport and Hawkinsville; they saw over 2,000,000 a year at that mill; then there is another mill between that place and Hawkinsville, called Smith's mill; they can saw out there five or six hundred thousand a year; then there is Wells' two mills.

Q. Where are they? A. They are located a few miles east of Hawkinsville, between there and White lake; they saw out a large amount of lumber.

Q. All these mills send their product by way of the canal? A. Yes, sir; and it all comes on to this feeder; the Wells mills will saw out 4,000,000 a year.

Q. Has he done it for the last two years? A. Yes, sir; doing it every year; I don't know but more; that is a low estimate; then there is Crandall's mill, about three miles from Hawkinsville on the feeder.

Q. Between here and Forestport? A. Yes, sir; then there is Seiter's mill, this side of it; they will saw out 1,000,000 between them; about 500,000 each; that is all the mills that I know of; there is a tannery or two up there; a tannery on Woodhull creek, just above Forestport; a large sole-leather tannery; and then another one at Hawkinsville.

Q. Do they use this canal for any purpose? A. They do; for bringing hides, to some extent; they don't now so much as they used to; they ship the most of their leather by rail, but they get in a great many hides by canal, they get bark by canal and other supplies by canal; there is another tannery at Hawkinsville; they use the canal for transporting bark and bringing in hides and other necessaries of their business, to a large amount.

Q. They use the railroad, also, for transportation of hides and leather? A. Yes, sir; in the winter they have got to use it, of course.

Q. Well, in the summer? A. They use it for transporting leather, principally, in the summer, but the hides they bring by the boat load.

Q. All these tanneries use the railroad for transporting their leather away? A. Yes, sir.

Q. Any other? A. Two grist-mills — one at Forestport and one at Hawkinsville, and they bring their corn, their grain and every thing here to grind.

Q. They are grist-mills for local purposes? A. Yes, sir.

Q. They are not mills to manufacture materials to export? A. No, sir; but they buy their grain and bring it here to grind; and they bring it over the canal.

Q. Exclusively? A. Well, in the winter, of course, they have to get some by cars.

Q. How far are they located from the canal? A. It is not but a few rods from the canal; they are substantially on the canal.

Q. What amount of grain do you suppose they bring? A. I don't know how much grain; they use large quantities of it; then there are two saw-mills in the village of Boonville; that lumber comes on to this feeder; there are manufacturers of lumber here; that is, sash, door, blind or other kind of manufacture that make lumber into other materials.

Q. How do they transport their manufactured articles? A. Their trade is principally home trade; I don't know as they transport much by canal, but they buy lumber and bring it in here; they bring it from the north or through the Black River feeder; then there is a grist-mill at Boonville.

Q. For local business? A. Yes, sir; they bring in grain by the boat load, and they bring it in principally by canal; besides this saw-mill business there is another very important interest not mentioned, and that is getting the piles and spars; large quantities of piles come out at Forestport, the State dam and all along the feeder, for the New York market; they run from fifty to seventy-five feet long.

Q. What would be the effect upon that trade of preventing its transportation by canal? A. Well, it would have a great effect in the city of New York.

Q. What would be the effect on this trade? A. Dry it up entirely; could not transport it; then these spars — there is not a place in the world where they can get spruce spars that will answer for making spars for shipping but here.

Q. Then they could take them over the rail? A. They could get them on the cars, but the expense would dry up the trade for us; it is a large trade and dependent almost entirely for its success upon the canal; the abandonment of the canal for navigable purposes would virtually dispose of that trade; it would use it up.

Q. What would be the effect of the abandonment of this canal, in your opinion, upon the lumber trade of this whole country throughout here? A. Well, sir, it would stop it almost entirely.

Q. Wouldn't it be taken out by cars, in your opinion? A. No, sir; I don't think it would; a small portion of it would; but a great portion of this timber would rot where it laid.

Q. Have you a foundry here? A. Yes, sir.

Q. On the line of this canal? A. That is on the canal.

Q. Does that foundry use the canal for any business purposes? A. They pump water out of it to make steam of, and they use it for transportation, of course, but I don't know to what extent.

Q. How do they bring their iron here? A. Well, what they want to use they bring by canal; of course, they bring their coal by canal; there is a plaster-mill that uses the canal, built on the line of the canal; they get their plaster from Onondaga county, I suppose, and bring it up here and grind it here; it is a plaster-mill for the local trade, and they bring their material by canal.

Q. Exclusively? A. Exclusively; all by canal; there was, last fall, 70,000 bushels of potatoes shipped from Boonville here, I think.

Q. This covers all the interests, doesn't it? A. No, sir; there are mills west of here; there are a number of mills west of here that have not been mentioned in the above list; I have mentioned nothing only those that come on to this feeder — tributary to this feeder.

Q. Give what is west of here; count up how many there is of them? A. It is safe to say there is from eight to ten mills west of us here in operation — westerly and northwesterly; they are not very large mills, but their aggregate product would be 4,000,000 or 5,000,000 feet during the year.

Q. Do they ship that lumber by canal — most of it? A. Almost exclusively; some shipped here and some at Port Leyden; there are large quantities of wood shipped on the canal; there is a good many mills between here and Rome.

Q. What kind of mills are there between here and Western? A. They are mills; I don't know how many there are, but they are manufacturing lumber all the while, and drawing it between here and Rome; I don't know any thing about the quantity they make.

Q. There are mills along on the line of the canal in this town and Western? A. Yes, sir; there are three mills right on the canal between here and Western.

Q. What is their probable product? A. A million and a half to two millions a year.

Q. The whole? A. Yes, sir; and the canal is used for shipping their lumber, transporting it all; then there are a large number of saw-logs run through; a good many saw-logs are sent down this canal that go east and west.

JAMES HYLAND sworn, testified as follows:

Examined by Commissioner WALDO:

Q. Start from here going north and name the mills? A. Botchford's mill on Moose river; that is tributary to the canal, but it is not on the line.

Q. What is his product? A. Well, they have manufactured a million there; spruce.

Q. You refer, and I do in my inquiries, to the annual product? A. Yes, sir.

Q. Well, next? A. Next is the Barnes mill; it is located about seven miles from the canal; the lumber is deposited at Port Leyden and shipped from there on the canal south.

Q. What is its product? A. I guess not less than 2,000,000; 1,500,000 to 2,000,000.

Q. Well, what is next? A. The White mill, located about three-quarters of a mile from the canal.

Q. What is the product of that? A. About 500,000 feet; I believe the next is the Brown mill, on Moose river; that is six miles from the canal; the lumber is shipped at Port Leyden; the quantity, I should say 1,500,000; the George Brown mill; that is situated on a brook; this last year his product has been light; but usually he cuts from 1,000,000 to 1,500,000.

Q. The next is what? A. Well, the Fowlerville mill; I am on Moose river now; those are all tributary to the canal; that manufactures from 1,000,000 to 1,500,000 — now then we take the Rogers mill; that is near the canal at Port Leyden.

Q. What is the quantity? A. A million feet is about their average; the next is the Feltman mill at Port Leyden; 1,500,000 feet; the Ager mill on Moose river; capacity is 1,000,000; I don't know how much they have sawed there; I am not positive as to that; the Lyon and Gould mill, on Moose river; they will manufacture this year between 4,000,000 and 5,000,000; it is safe to call that 6,000,000; now, we have got to Lyon's Falls, with the exception of the other manufactories such as paper-mills.

Examination continued by Commissioner CHAMBERLAIN:

Q. There are some manufactories that you have not mentioned — paper-mills? A. There is a large pulp-mill on Moose river, and there are two paper-mills beside.

Q. What is the quantity of their product, or the value of it — can you give any estimate in regard to that? A. I don't know as I can give that; I wouldn't want to.

Q. Well, what is the value of the property; can you give any estimate of that? A. I don't know that I can.

Q. You have given them all the saw-mills to what point? A. To Lyon's Falls; there is a large number of interests aside from the lumbering interests that have not been mentioned.

Q. These lumber-mills manufacture spruce principally? A. Spruce and hemlock principally, and considerable pine; there is a large iron interest down at Port Leyden; there is a large tannery interest on Moose river.

Q. Can you give the number of hands employed in either of these tanneries — the average? A. The average of the Moose tannery, I guess, would be fifty; that would include their time of peeling bark.

By Commissioner FOSTER:

Q. What do they manufacture — sole leather and oil? A. Yes, sir; there is one tannery at Port Leyden; that probably employs nearly as many more; the average employment there would be forty to fifty men.

Adjourned.

LOWVILLE, *October* 11, 1876.

WILLIAM WIRT RICE sworn, testified as follows:

Examined by Commissioner WALDO:

Q. You reside where? A. In the town of Croghan.

Q. On the line of the Black River improvement? A. About six miles from the canal, at Peterman's Landing, on the line of the Black river, or slack-water navigation, or whatever you choose to call it.

Q. Below Lowville? A. Between Lowville and Carthage.

Q. What is your business? A. Tanning and lumbering.

Q. How long have you been engaged in that business? A. Been there nineteen years.

Q. Are you familiar with the products of this country and locality? A. Why, yes; our portion of it.

Q. Are there any manufacturing or other industries depending on the maintenance of this canal and slack-water navigation on the Black river? A. Yes, sir.

Q. State what they are—locate them? A. I had better state what I know about the town of Croghan.

By Commissioner CAMBERLAIN:

Q. The Beaver river runs through that town of Croghan? A. Yes, sir; it runs east and west mostly; it is a large stream over a hundred miles long, I believe; it runs right through a wilderness, all but the first eight or ten miles, up from the mouth of it.

By Commissioner WALDO (continuing):

Q. The head waters of that Beaver river are where? A. Well, Albany lake—Smith's lake; I never have been up to the head waters of it; I should state pretty much in the town of Croghan, what I have got down in this statement, which I hold in my hand.

Q. Are there lumber mills in the town of Croghan? A. Yes, sir; Beaver river will furnish 150,000 acres of timber.

Q. What kind of timber do you call it? A. The bulk of it will be hemlock and spruce; pine.

Q. What proportion of pine? A. Well, perhaps ten or fifteen per cent; about twenty per cent of spruce, and the balance will be hemlock; two-thirds of it will be hemlock, undoubtedly; the capacity of the mills now in operation in the town of Croghan amounts to about 15,000,000 feet per year; the capacity of the mills of course is very light in proportion to what lumber there is to be manufactured.

Q. You estimate that the acreage will supply those mills for how long a time? A. One hundred years; but then the lumbering business is in its infancy with us on our side of the stream.

By Commissioner CHAMBERLAIN:

Q. Would not a large share of this lumber be run further down and be manufactured? A. It can be run to all the mills below Beaver river; it can be run to Carthage and manufactured.

By Commissioner WALDO (continuing):

Q. How long have these mills been in operation; I mean mills to the extent that you now speak of? A. The most of these mills have been there fifteen years.

Q. Have you any other industries, aside from this lumbering, that depend in any way upon the maintenance of this canal and improvement? A. Outside of tanneries, there are not very much; there are a few factories, but they are rather small affairs; they are all derived from lumber, shingles and lath, etc.; there are no others.

Q. You have a railroad running from Utica, touching this canal at Boonville, and then running up on the canal to Lyon's Falls, and from there up this Black river improvement and down to Carthage?

A. Yes, sir; our station where we draw leather to, we cross the river and have to go three-quarters of a mile about to get to the railroad.

Q. Perhaps you had better go through with your statement that you have? A. Now, I come to the value of the mills that depend upon the canal for the business; if the canal was stopped they would be worthless almost; I put it at seventy thousand dollars, but Mr. Dewey thinks I have got it too low; they, undoubtedly, cost a hundred thousand dollars, and perhaps one hundred and twenty-five thousand dollars; lumber can be floated down Beaver river fifty miles; that is my opinion; this don't include the lumber that would come from other mills that don't depend upon Beaver river for their supply of logs; there is plenty of them; Baylers' and Andrews' mills, and Indian river and all those; it is all woods upon the banks of Black river from High Falls to Carthage, it is all solid wilderness, and goes back as far as these streams will let you get the timber down.

Q. Your practice is to go back on these streams and cut your logs and float them down the river? A. Yes, sir; and take the nearest ones first, the clearings will extend back probably three miles along the Black river; that would be a comprehensive statement to say that from Boonville to Carthage is one vast wilderness, but it all depends upon this canal; that is a fair way to state the thing.

Q. That wilderness is composed of what kind of timber? A. Hemlock and spruce and pine; there is a great deal of hard wood, which in time will be valuable to be manufactured, as they do down east, into spools, and I don't know what else; they use up thousands of cords of hard wood every year.

Q. What else? A. Well, I have estimated that the damages to these timber lands, in case the canal is abandoned, would certainly amount to twenty-five cents a thousand upon all this timber, which would be a very low estimate.

Q. That is, the value of the land would be less? A. Yes, it would be that much less; the abandonment of this canal would reduce the value of those lands half a million of dollars; the great difficulty with lumbering in this country is, that this canal is so small you can't carry away any load; now you can get lumber carried from Oswego to Albany for twelve or fourteen shillings a thousand less than we can carry it from here, simply owing to the light loads that they have to carry from here.

Q. How far back from these streams are the hemlock logs good for any thing for marketable purposes? A. They are almost as valuable twenty-five miles as they are ten; the expense of running the logs in a freshet is a very small item— that is, on Beaver river.

Q. How far can you draw them to the stream? A. Well, that depends upon the value of the manufactured article.

Q. Well, take hemlock? A. Well, now-a-days, lumber is very much depressed, and there isn't any money in it in any way.

Q. Well, can you draw them two miles to these streams? A. Oh, yes; that depends entirely upon the value of the lumber after it is manufactured; they usually draw them from three to four miles on each side of these streams that they can draw them; I calculated that three miles was a very reasonable estimate, but if the price was so that it would pay, of course they would go further, and as lumber becomes more scarce, they will have to go further; they use the handiest and easiest first, and they can go fifty miles up a stream easier than they can go three or four miles back; the abandonment of this canal would reduce the value of those lands contiguous to Beaver river not less than half a million of dollars, and that is a very low estimate, too.

Q. How much of this lumber goes by canal when manufactured? A. All of it; that is, it is reasonable to say all of it, unless there is some little sale made down this railroad.

Q. How much of the lumber brought out to the Black river from this country, all along on the line from Carthage to Boonville, goes on the canal, and how much by railroad? A. I should say that ninety per cent of it went on the canal undoubtedly, as far as I am acquainted; I am not much acquainted above High Falls; it is a little more convenient than to ship by rail, but I don't think they do.

Q. It is in exceptional instances, where it is taken to the railroad? A. Oh, yes.

Q. The tanneries in this country do not use the canal much? A. No, sir; not since the road has been finished down to Lowville here; before the railroad was finished, we used the canal during the season of navigation.

Q. Now you use the road both for bringing your hides in and transporting your leather out? A. Yes, sir; we make special rates with the railroad; I suppose they do it on purpose to prevent our going to the canal; that makes a sale, so that it is about as well for us to use the railroad; we would be under the necessity of shipping about one-third of our stuff by railroad any way, even if we used the canal; that is the way we estimated it when we made this arrangement with them.

Q. You have done this how long? A. Since the railroad was completed down here; of course we talk canal to them; say if you don't do so and so we will go back to the canal; the canal wanted forty cents a hundred, and the railroad would charge us about a dollar in the winter time; and two hundred pounds by canal would be eighty cents, and one hundred pounds by railroad would be one dollar, making one dollar and eighty cents for three hundred pounds, and that would be about sixty cents a hundred on the average, and then there was storage charges that made it about five cents more on a hundred pounds; the railroad offered to carry our stuff at sixty cents a hundred, right through, so that it was about an even thing to us, and we had quick returns; leather and hides are both articles that there is a great deal of value in, and it is an object to get the article into market, after it is manufactured, as soon as possible.

Q. How much navigation do you have here on this canal? A. From the time it opens until about the first of November; I think after the first of November they won't guarantee a cargo through; but up to that time they will; about twenty-five hundred tons of freight are furnished by four tanneries in the town of Croghan; that all goes by railroad now, at fifty-five cents a hundred, and the canal will take it for twenty-five cents; offered to do it this last spring; and we shall have to do it; we can't stand it, that is all there is about it, to pay such rates.

Q. Is there large quantities of lumber transported by this railroad? A. I should think not; not this railroad; the Rome and Ogdensburgh road there is.

Q. There is a quantity of lumber transported from St. Lawrence county by the Rome and Ogdensburgh road? A. Yes, sir; large quantities.

Q. What kind of lumber is that? A. Hemlock and spruce.

Q. From where? A. Gouverneur, and places this side.

Q. Any thing beyond Gouverneur, probably? A. I should think not; there are mills in Ogdensburgh, but I don't think they manufacture lumber to come this way.

Q. How much further from market are they than you are? A. I should say about fifty miles, and they get rates of freight to Albany as cheap as we can right here from the mouth of Beaver river, and use the Rome and Watertown road from Rome to Gouverneur.

Q. There is lumber shipped from Potsdam, St. Lawrence county, by rail, and taken to Rome? A. Yes, sir.

Q. Over the Rome and Ogdensburgh road? A. Yes, sir.

Q. How much further mileage does Potsdam people have than you would have over this road here? A. I should think they have forty or fifty miles to get even with us; they have got to carry their lumber fifty miles to get even with us; there is Bender & Son in Albany, that are interested in those mills at Potsdam; this firm at Gouverneur is Weston, Dean & Aldridge; they also carry on a lumber yard at Albany.

Q. Aside from lumber in this locality, what other interests use the canal exclusively, or nearly so, or partly use the canal? A. Well, there is a great deal of stuff that is brought in on the canal, salt and coal.

Q. They export wood, I suppose, some? A. Yes, sir; slab-wood, and a great deal of coarse stuff; I don't live on the bank of the canal, and am not acquainted with the business any further than our own business has forced us to learn it.

By Commissioner CHAMBERLAIN:

Q. This spruce timber is shipped on the canal east for spars, isn't it? A. Yes, sir; there is a great deal of that for a few of the last years done here; they used to do it up to Boonville around those feeders, but I suppose that country has been used up and they have got down here on the Black river.

By Commissioner WALDO (continuing):

Q. How much in diameter are those spars? A. They propose to take trees from twelve to sixteen inches at the butt, when they talk to us about buying; a lumber man don't like to buy a log that is much less than twelve inches in diameter; that is at the small end, of course, so that it takes a class of timber that would probably be left standing in the woods if it could not be used for spars.

Q. That business has been growing for the last few years, hasn't it? A. Oh, very much, on the Black river.

Q. And as a business man, you estimate it will increase? A. Oh, it can't help but increase, because I should judge that the other sources that have supplied this trade must be failing; and that is a kind of timber, I don't know how they could drive it down a stream; I should think it would be difficult; I have thought of that a great deal, and if they could drive it, Beaver river could supply a good deal of it.

G. H. P. GOULD sworn, testified as follows:

Examined by Commissioner WALDO:

Q. You live where? A. Lyons' Falls.

Q. And are a member of what firm? A. Lyon & Gould.

Q. Engaged in what business? A. Manufacturing of lumber; hemlock, spruce and pine.

Q. Do you use the canal for freighting purposes? A. Entirely sir.

Q. What is your product? A. Our product this season was 4,500,000.

Q. What material? A. Hemlock, spruce and pine; hemlock mostly.

Q. Your material comes from where? A. It comes down the Moose river; we put it in in Herkimer and Lewis counties.

Q. How far is it floated down the river? A. Last year's drive was driven sixteen miles; we now have a drive in the river, which was driven from Hamilton county, of 1,500,000 feet of pine, and we are now putting in 1,750,000 feet more at the same place to come down next spring.

Q. Pine? A. Yes, sir.

Q. On what river is that? A. On the south branch of Moose river; the timber belongs to Samuel Wren, of New York; he is here in the place now.

Q. There is quite a territory in that vicinity that is covered with pine? A. Yes, sir; the outlet of which is all this way, and right on the other side of where we are getting this timber it goes the other way to Glen's Falls; on this tract, that we are on alone, we estimate there is 30,000,000 of pine; this is township four of the Totten and Crossfield patent; this pine all has to come this way; it is the only outlet there is for it, and the whole length of the stream down is timbered with hemlock and spruce mostly, and some sections with pine.

Q. How long have you or your firm been engaged in business? A. The firm has been engaged in business seven years; this is the third year that I have been engaged in it; we have a mill within a mile of Lyons' Falls, and boats run right up to it; boats run down the Black river and up the Moose before you lock in below the falls.

Q. Do you reship your lumber at Rome? A. I have reshipped some; we have some there that we are reshipping.

Q. Where does your product find a market? A. Albany and Troy.

Q. All goes through the Erie canal? A. Entirely; our freights are so high that we could not make any margin at all to ship by rail; lumbermen in this country can hardly live and ship by canal; we also have in the town of Lyonsdale, we estimate 30,000,000 of feet of hemlock and spruce standing now.

Q. The timber in the town of Lyonsdale which has not been cut, what you estimate is spruce and hemlock exclusively; A. Yes, sir; well, there is some pine, but not much.

Q. Aside from spruce and hemlock, is there any lumber material that will be transported over the canal? A. There is a party now that is about arranging to put in tamarack into the stream and drive it down for ship knees; there are large tamarack swamps on the river; he has been engaged on it driving down branches to the Hudson river, and he is coming over to try it this way.

Q. Will that make any considerable trade? A. Oh, yes, make considerable; there is quite a trade as he represents it.

Q. What is the difference in freighting by canal or railroad from Lyons' Falls to Albany? A. It is about $170 on 60,000 feet; those are the best rates we can make even with the canal here; I don't know what it would be if the canal was taken away.

Q. How far do you draw these logs to get them to the river? A. We draw from the river back to a mile and a-half where we are going now; two miles will be the very farthest back we can afford to go, at the present prices of lumber.

Q. It would depend something on the price of lumber whether you could go further back or not? A. Yes, sir.

Q. This business of yours has been carried on for the three last years past? A. Well, we have shipped for two seasons; this is the third year we have been in business.

Q. Shipped it by canal? A. Yes, sir.

Q. All the lumber establishments at your place ship by canal? A. Yes, sir; there are three mills on the river above us.

Q. Are you acquainted with the lumbering business from Booneville up to this country? A. Yes, sir.

Q. How is the product shipped? A. By canal entirely; there is very little, if any, shipped by rail, and that is during the winter; some small sales.

By Mr. Dewey:

Q. What distance is this Moose river navigable from the Black river, for logs? A. Forty odd miles.

By Dr. Crosby:

Q. How many years do you think the timber supplies will last that is there now? A. A good many years.

Q. A hundred years? A. Perhaps it would.

By Mr. Dewey:

Q. The country on each side of the river is timbered? A. Yes, sir.

Q. Timbered from the Moose river tannery up? A. Thirty miles; thirty miles of solid timber.

By Dr. Crosby:

Q. You suppose don't you, that if it was better times and business was more brisk, that there would be a great deal more lumber manufactured and shipped than there is now? A. Yes, sir.

By Mr. DEWEY:

Q. Well, what would these timber lands be worth in case of the abandonment of the canal? A. I should not give it any value whatever.

Q. You could not manufacture lumber and ship it by rail at what it would cost, would you? A. No, sir; at any rates that we can get from the railroads.

By Dr. CROSBY:

Q. What is that timber land worth per acre now? A. From two to five dollars an acre; it depends on how well it is timbered.

Q. How much money is invested in milling property on Moose river? A. From eighteen to twenty thousand dollars, as near as I can fix it here.

Q. Is there any other mills about there excepting those on the stream? A. I don't know; I presume they have got the Port Leyden mills.

JAMES D. SMITH sworn, testified as follows:

Examined by Commissioner WALDO:

Q. You reside where? A. In the town of Greig.

Q. Familiar with the business on the Black River canal and the Black River improvement? A. I am somewhat acquainted with it; not very familiar; I was just called in here for a moment; I had no forethought of this movement at all.

Q. How long have you been engaged in business? A. I have been engaged there for twenty-five years; I can tell you the number of mills there is there, perhaps.

Q. You confine yourself now to the town of Greig? A. Yes, sir; there are two streams in the town of Greig on which mills are built; Fish creek and Otter creek; on Fish creek there are four circular saw-mills in operation, and one gate-mill that is running, and there are two others that are not in running order.

Q. What is their capacity? A. Their capacity is about 5,000 feet per day each; about that on an average, I should think; I have owned one of the mills that was on that creek, and run it; they can saw more than that; on Otter creek there are five circular-saw-mills, and two gang-mills, I think; the two gang-mills on Otter creek are A. C. Eaton's and Charles Partridge's.

Q. Where do they get their material? A. Their material for those on Otter creek, the most of it, is floated down the creek; the creek is a public highway from Otter lake, as I understand, and sluices have been made for two miles from the lake down the creek for the purpose of floating timber and logs.

Q. How far is Otter lake from where these mills are? A. The Otter lake is about in the line between Lewis and Herkimer counties.

Q. Then logs are floated down that stream from Herkimer county? A. Yes, sir.

Q. Upwards of twelve miles, isn't it? A. I think about that; the stream is large enough to float logs above there, but the creek has not been fixed in a shape so that they can be floated; they have been floated from what they call Big Otter lake down, for the last four or five years.

Q. All the product of those mills is shipped over the canal? A. Yes, sir.

Q. The whole of it? A. Except what goes on the railroad; some portion of it may go on the railroad.

Q. What proportion of it? A. I don't know; I am mistaken as to those mills; there is another gang-mill; instead of a circular-saw-mill that is a gang and circular both together; those mills on Otter creek, the gang-mills, I am unable to give the estimate; Mr. Eaton's mill and Mr. Partridge's mill — Mr. Eaton's is probably the best mill on the creek, and Mr. Partridge's next; I couldn't give the accurate estimate of the product.

Q. Have those mills been running the last two years? A. Yes, sir.

Q. Running now? A. Yes, sir.

Q. Their product shipped over the canal? A. The greater part of the lumber has been shipped on the canal this season and last season.

By Mr. Dewey:

Q. The capacity of Mr. Eaton's mill is seven or eight million feet; that is what he claims? A. I don't know how that is.

Q. And Partridge's mill five or six millions? A. Yes, sir; I presume so.

By Dr. Crosby:

Q. Norton's mill will saw from five to 10,000 thousand a day? A. Its capacity is about that.

Q. And Pitcher's mill? A. About 5,000 a day, I should think, on the average.

By Commissioner Waldo (continuing):

Q. None of those mills are run up to their full capacity? A. None of them are run to the full capacity of the mill; there are three tanneries in our town — Mr. Botchford's (Lyon & Botchford's, formerly) — and two other tanneries owned by Van Woert of New York.

Q. What means of transportation do they use? A. Their leather is shipped on the railroad, principally.

Q. And their hides brought here by rail? A. Yes, sir.

Q. They don't use the canal for the transportation of bark, I suppose? A. No, sir.

Q. In fact they do not use the canal at all? A. I don't think they use it at all in their business.

Mr. Smith presented a statement showing thirteen mills in operation, and he estimated the value of the mills to be about $72,600.

Marked Black River Canal Exhibit, No. 3.

DE WITT C. WEST sworn, testified as follows:

Examined by Commissioner WALDO:

Q. You reside at Lowville? A. Yes, sir.

Q. And are familiar with this country? A. Yes, sir.

Q. You are the president of the Utica and Black River railroad? A. Yes, sir.

Q. We would like to get your views of the amount of country that would be tributary to this canal; the timber of which, when cut, would reach this canal by the way of the rivers and creeks, that could be made navigable? A. I should not put it less than half a million of acres.

By Commissioner FOSTER:

Q. Is not that a very low estimate? A. Yes, sir, it is; I desire to put it very small, because I think that will do for the present generation, and we will let the next one take care of the canal after we leave; I say that it is a very small estimate; there is over 100,000 acres in Watson's east and west triangle; I put it half a million acres; I mean half a million of acres of land now in timber, in a well preserved condition.

By Commissioner WALDO (continuing):

Q. Of what kind of timber? A. Principally evergreen timber; hemlock and spruce.

Q. Some pine I suppose? A. Some pine, yes, sir; but not large quantities.

Q. Well, that would be a supply for the present amount of mills, for how many years? A. Oh, I couldn't give you an estimate on that; for more than 100 years, I should say, at the rate they are cutting it now; that would be a mere guess; I couldn't give you any idea of it; I have lived here twenty-three years; well, Mr. Petrie has moved up about five miles and a half, and he is the furthest man in the forest; he has made that much of an inroad in that time; he is now the man farthest off in the direction that the inroad would naturally be made from this point; he has gone up that far, because it is not far distant from the canal.

Q. Can your road be used for the transportation of lumber from the east side of the Black river? A. Our road can be used for the transportation of lumber from Castor Land, Glendale, and Port Leyden; those are the only points in this county; but it is not as convenient at either of those points as the canal, but it can be used.

Q. At other places why can't it be used? A. Because there are no conveniences for crossing the river; there is at Lyons' Falls, but the hills there are very objectionable, and I don't suppose there is much lumber crossed there, but these are the points where the bridges are.

Q. It could be used at Boonville, couldn't it? A. Yes, sir; it could be used at Boonville; that is not in Lewis county; I speak more particularly of Lewis county now; it could be used at Boonville, but never is used, however; the lumber is not manufactured near Boonville, it is manufactured way up the feeder.

Q. Have the mills and the product of the mills increased in the last fifteen years? A. Yes, sir; up to a certain point, very largely.

Q. Aside from the evergreen timber, is there other timber that could be made valuable? A. Yes, sir; maple, birch and cherry are the predominant timbers; beech, of course, I don't consider so valuable; there is plenty of it, but I do not consider it so valuable; tamarack is an evergreen timber, and should have been put in with the others; there is a good deal of tamarack in this country.

Q. Could you give any estimate as to the acreage of this maple and birch and other timber? A. No, sir; I could not; you may put down among the evergreens, tamarack and cedar, there is but a small quantity of cedar in this forest east of us; there is a considerable amount of tamarack and a large amount of spruce and hemlock; all the timber lands are covered generally more or less with hemlock; it is rare that you find a hundred acres of land that has not got some hemlock on it and some spruce, very rare indeed; I don't know that I ever saw a hundred acres of land in these woods that hadn't some hemlock and some spruce on it; some of those lots are densely covered with hemlock and spruce.

Q. This acreage that you speak of is timber land that has never been worked into? A. Yes, sir; timber, as I said before, in a condition of preservation, with the exception of the natural decay; I think that you take ten thousand acres of land in a square body, east of the river, it will average four cords of bark to the acre.

Q. That bark is used here in the locality? A. Yes, sir; a cord of bark peels, on an average, about 1,500 feet; you get four cords of hemlock bark on the average, and that will give you at least 6,000 feet of hemlock; then you get a large amount of spruce besides, to the acre; that gives you the closest estimate that I can give you.

Q. As an average will the spruce equal the hemlock? A. No, sir; I don't think it will, because the timber is not so large generally.

Q. That timber is used more for timber to be taken away? A. Yes, sir; dimension timber they call it; building timber and spars and every thing of the kind.

Q. It is taken away in large quantities without being manufactured or sawed? A. Yes, sir; there is one tract that has an estimate of 80,000,000 of feet of pine tributary to this canal, that never has been touched.

Q. Where is that? A. It commences at the south branch of Beaver river and runs from there to the Albany Bridge lake; Beaver river runs right through it, and it is tributary to this Black river; a little of that lumber has been floated down to these mills into Black River canal, because it was the Black River canal, or Black river, which is a part of the canal; there is one tract there that is estimated by actual count, to contain 80,000,000 of feet; that is the count of the purchasers; that is their estimate; there are other tracts; I know several tracts of 10,000,000 and 3,000,000;

Wetmore has a tract that he estimates to have two or three millions of pine on it — that is on the Independence.

Q. Would there be any difference in the value of these lands if the canal was abandoned from here to Rome — these timber lands I am now referring to? A. I sold 3,000 acres of those timber lands two years ago for five dollars an acre; those lands would not be worth twenty-five cents an acre if the Black River canal was abandoned; those lands would not be worth any thing; that is the way to tell it.

Q. Would the same rule apply to other lands? A. Yes, sir; all around the country; they are not all worth as much as those lands I sold; the ratio of the decline would not be as large because the value would not be as much, but the lands would be worthless on the east side of the river; timber lands, as a rule, would be worthless; the land is not suitable for farming purposes; it is only good for the timber; for farming purposes the land is generally, after you get back beyond the section that is now settled, worthless; it is a cold, barren, shallow soil, with the hardpan close to the surface, but the timber is generally good, as a rule; I am speaking now of the range of country extending from Moose river through as far as this forest goes; I am pretty familiar with these lands through this country; I helped survey out that old road from Carthage to Crown Point a good many years ago, and then I have surveyed in these woods for several seasons, more or less; and then I have owned some of these lands, looked them over, and fished up there, and hunted up there, and all that sort of thing.

By Dr. CROSBY:

Q. Would property this side of the river be worth as much if the canal was abandoned, taking into consideration what business is done on the other side of the river? A. I do not think you can paralyze one section of the country without affecting the rest of the country; I think if you paralyze one-half of Lewis county, you will find that the other half will move along a little slower; oh, yes, it would have a serious effect on the west side of the river; in the first place it would make quite a difference in the trade of these villages; you see a very active, flourishing village, and I believe that a very large share of its trade comes from the east side of the river; you know how it is with lumbermen — they buy about for every dollar that they get in value for their lumber; in other words, they send out a million of feet of lumber, and it brings them $10,000, and they buy pretty near $10,000 worth of merchandise or manufactured articles, machinery or something; they are good distributers; they keep a large number of men at work, they buy a large quantity of provisions and machinery, etc., and pretty much all the products of their mills go in that way, and if for the last three years they have not spent more than that, they are very fortunate indeed; one reason why, as a railroad man, I want to see this canal sustained is that notwithstanding we do not get much of the lumber, we get every thing in the way of merchandise and provisions and machinery, and every thing that they want immediately, that they buy, perhaps, in a different market from what they sell their lumber; we get a good deal of that over our road, and on that we get good prices for transportation, because they are articles that bear good prices, and the cutting off of this lumber business would reduce our business just the same as the destruction of any kind of business reduces the business of everybody else; we cannot be hurt, any of us, but what it hurts somebody else; there is another thing: within a short distance of the terminus of this canal are extensive ore beds; at Shurtliff's, within 120 rods of our road, is an inexhaustible bed of hematite ore; it supplies the furnace at Syracuse, Belden, Gere & Co.; supplies a large amount of ore to Charlotte, when there is any demand for it, a large amount to Cleveland, considerable to Pennsylvania, and some to Clinton; north of Philadelphia, on the Rome and Watertown road, are a number of ore beds; the nearest bed is fourteen and three-fourths miles by rail from the terminus of the canal, and it is within 120 rods of the railroad, by actual measurement; that ore, if iron is ever worth any thing like what it has been, can be transported in large quantities on the canal by dumping it at Carthage into canal boats; but it was a business that had just begun to develop when this panic of 1873 came, followed by the prostration we have had since, and the whole thing went down together; furnaces have ceased operations on the whole line; the one at Carthage, I believe, designs to go into operation within a short sime; the quantity of the iron manufactured is of a superior quality; a good deal of the ore and of iron also is shipped by canal; we have had to carry that iron, in order to get any of it, as low as thirteen dollars a car from Carthage to Utica, a distance of seventy-four miles, at one dollar and thirty cents a ton, gross ton at that — 2,240 pounds, and the canal got the most of it then.

Q. What would that be per mile? A. It is a good deal less than two cents per ton; it is as low as any lateral road can carry; we carried for about a cent and five-eighths per ton; I believe there is no other information I can give on the subject, gentlemen; I would regard it as a very disastrous thing to the county of Lewis, and all the counties through which the canal passes, to have the canal closed; it accomodates a large area of country; I think it would be followed by pretty serious consequences to a great many individuals.

Mr. West left with the Commission a copy of his annual report, as president of the Black River Railroad Company, to the stockholders of that company, which was marked Black River Canal Exhibit, No. 4.

A. J. **Passenger** sworn, testified as follows:

Examined by Commissioner **Waldo**:

Q. Where do you reside? A. Watson.

Q. Engaged in what business? A. Lumbering business.

Q. How long have you been engaged in that business? A. Oh, pretty much always; my principal business always.

Q. Do you run some mills, you and your firm? A. Yes, sir.

Q. Use the canal for freighting purposes? A. Yes, sir.

Q. Exclusively? A. Yes, sir.

Q. How much is the product of the mills in your vicinity? A. I made a little list of them here. [Producing the list.]

Q. How many mills are there? A. Twenty-four mills in the town of Watson; I think I have got one in the edge of Greig here; I think two or three are in the edge of New Bremen.

Q. What is their annual product? A. Well, they will average about five thousand a day.

Q. The whole of them? A. Yes, sir.

Q. Have they been running at their full capacity for the last two years? A. No, sir; they have not, all of them.

Q. All those mills ship by canal, I suppose? A. All by canal; you see they have got to cross the Black river and come some three or four miles, or four or five miles, to get here to the railroad, so, consequently, the extra hauling of this lumber to the railroad would pay the transportation of the lumber to Utica by canal.

Q. It would cut off the margin on the lumber? A. Yes, sir.

Q. What is your estimate of the capital invested in that business for the locality you have estimated? A. It is $123,500; all the material for those mills is supplied from the country east of the Black river — east and north.

Q. This territory spoken of by the other witnesses? A. Yes, sir.

Q. You have heard Mr. West's estimate as to the quantity of timber lands tributary to the Black River canal and the value of them? A. Yes, sir.

Q. Do you concur with him, or otherwise? A. I do; he gave a pretty good general idea.

Q. What would this property be worth in case of the abandonment of the canal — would the abandonment of the canal affect the value of this mill property? A. Oh, it would not be worth any thing; it would have to be abandoned entirely; they would rot down and that would be the end of them.

Adjourned.

ROME, *November* 23, 1876.

S. F. GARMON, recalled:

Examined by Commissioner WALDO:

Q. Mr. Garmon, I believe we asked you about what you estimated the expense of running the Black River canal next year, when we were at Boonville? A. I can't remember whether you did or not.

Q. Well, what do you estimate the expense of running this Black River canal, leaving out the reservoirs, for next year? A. About $38,000, leaving out just the reservoirs; that includes dispatches in sending for this water, and all moneys between the reservoirs and here.

By Commissioner **Foster**:

Q. You include the necessary repairs to bridges and every thing? A. That includes every thing; that includes sending for this water and every thing; what we throw out is reservoir keepers and light repairs, necessary to be done on these reservoirs.

By Commissioner **Waldo** (continuing):

Q. Most of these reservoirs are in good condition? A. All right, except the reservoir at South lake.

Q. As to that you thought that it would need extensive repairs? A. New pipes put in.

Q. How much expense? A. That is just a matter for the authorities to decide; they can be put in, in my judgment, for not to exceed $2,000; but if the dam is cut open, and they are put in that way, it will probably cost $3,500 to $4,000.

Q. The engineer, Mr. Sweet, has examined it with you? A. No, but he has examined it.

Q. What is his opinion? A. I don't know; he made an estimate last spring, but estimated cutting the dam, and taking the old trunk out; that estimate was about $4,500.

Q. How are the locks and the walls of the canal from here to Lyons' Falls? A. They are good.

Q. And the feeders? A. They are good; the locks are in good condition as a whole.

Q. How are the bridges? A. Very good, indeed.

Q. How are the aqueducts? A. Good fair condition.

Q. Probably need any repairs next year? A. Nothing of any account; very little, if any thing.

Q. Culverts? A. The culverts are all good; the culverts are all stone — every one of them; and almost all the locks are stone; all of them, except the two river locks.

Q. How about the feeder? A. The feeder is in good condition; there is no really weak point on it at all; some part of the banks that should be strengthened as they can be along, but there is none of them that show any weakness at all.

By Commissioner **Foster**:

Q. In this expense that you rate at $38,000, do you include keeping the feeder in repair? A. Oh, yes; my idea is just this; I think it will take just about $40,000 to pay those reservoir keepers, and any light repairs necessary to be put on the reservoirs.

By Commissioner **Waldo** (continuing):

Q. Does that include any repairs to the Carthage bridge? A. It includes the repairs of the Carthage bridge, although it is a close estimate to include those repairs, and it depends something on how those repairs are made.

Q. Has the State maintained that bridge ever since the Black River canal was built? A. No; the bridge was built there about twenty-one or twenty-two years ago; built by the State; the State took it; the towns owned it previous to that.

By Commissioner **FOSTER**:

Q. There has been no bridge before? A. Oh, yes; the town had a bridge there; there had been a bridge there probably for five years.

By Commissioner **WALDO** (continuing):

Q. You said there was something else you wanted to state? A. This Delta feeder; that feeder was made originally, and dug down so that a boat could run up it; there was a lock at the head of it, about three-quarters or five-eighths of a mile from the canal, and they went originally and constructed swing bridges across it; and maintained them for a long time; there were four bridges certain, and one of them a bridge put up high and an embankment carried up to it; the swing bridges have all gone down, and now they have got reduced down to small bridges put across level with the canal, and what they are hammering about all the time there is a grist-mill and a little saw-mill up there, and about two or three times in the course of the season they would like to run a boat up there, and they want swing bridges up there again, or else they want bridges put up and embankments carried up to them so that they can run under.

Q. You do not include that in the $40,000? A. Oh, no; my theory is just this so far as that Delta feeder is concerned, it ought to be abandoned so far as navigation is concerned; it is practically abandoned, but it ought to be really.

Q. Is it included in the reports as being navigable? A. Yes.

By Commissioner **CHAMBERLAIN** (continuing):

Q. What is the number of bridges across the Black river? A. Seven on Black river and one on Beaver river and one on the Moose river; that is what it is properly; the one at Lyons' Falls is across both rivers.

Q. State where these bridges are located? A. Well, commencing at Lyons' Falls, just at the junction of the Moose and Black river.

Q. That is above slack-water navigation? A.. Yes, sir; at the head of the falls; there are two there, Moose and Black river bridge, each have two seventy-four feet spans; the next below that is what is known as Whittlesey bridge — bridge below Whittlesey landing; there is a swing in it; one span of seventy-four feet, and one of fifty-four feet, and a swing; the next one below that is Glendale bridge; that has two ninety-four feet spans, and a swing; Beach's bridge, that has two seventy-two feet spans and a swing; Illingworth bridge, that has three seventy-two feet spans and a swing; Parker's bridge is the next below Illingworth; that has three eighty-four feet spans and a swing; Carthage bridge has five seventy-four feet spans, and two spans that are about fifty-four to fifty-six feet — somewhere along there.

Q. That is below slack-water navigation? A. Yes, sir; now Beaver river bridge has two sixty-five feet spans.

Q. All these bridges are maintained by the State, are they? A. Yes, sir.

Q. Those bridges are all, except the Carthage bridge, in pretty good order? A. Yes, sir; except the abutment of the bridge at Lyons' Falls; there has been a little difficulty with bridge.

Q. Is there any thing else you desire to call our attention to? A. No.

A. C. Eaton, sworn, testified as follows:

Examined by Commissioner Waldo:

Q. Are you engaged in the manufacture of lumber? A. Yes, sir.

Q. At what place? A. Glendale is my post-office address.

Q. Do you ship that lumber over the Black River canal? A. Yes, sir.

Q. To what extent the past season? A. Something over four million, sir.

Q. What kind of lumber? A. Hemlock, principally.

Q. What collector's office is it cleared from? A. From Boonville.

Q. To what place? A. To Stanwix or to Rome; I don't know which.

Q. Where is that lumber sent? A. Principally to New York.

Q. The balance not sent to New York? A. The balance not sent to New York, to Albany; it has, heretofore, been sent to Troy.

Q. So that your entire product, this year, coming over the Black River canal has gone by the Erie, where? A. To Albany; I have not shipped any to Troy this year.

Q. Now, practically, how is that done; you ship by boats to where? A. I ship it by small boats to Stanwix, then I pile it out at Stanwix and ship by large boats to New York.

Q. And the small boat returns? A. The small boat returns to my landing.

Q. Do you know where that lumber is re-entered; where the boat that loads that takes its clearance; is it here or Utica? A. I don't know, sir; I think that they have to go in here and report and pay toll from here to Stanwix; this boat that has just locked down about five minutes ago, he came over with me, and went over to the collector's office, he said, to clear; I supposed from that he had gone to pay tolls from here to Stanwix, when he returns, I know he has his bill of lading and the receipt on the back for the lumber received here by my shipping agent, and when he returns and renders his bill of expenses on his account is the tolls from Stanwix to Rome again; that is, on the light boat.

Q. Are there any other men engaged in the lumbering business in your vicinity, who ship lumber through to Albany over the Black River and Erie canals? A. Yes, sir; there is Lyon and Gould; they have shipped some 3,500,000 this season, I think.

Q. How do they do? A. They ship through a great many small boats, and they top out here; send a small boat down here to top out; they will start three or four small boats, and they will take one and divide it up among the others; after they get into the Erie they can load deeper, and go on with their small boats.

Q. In that event they would clear at Boonville for three of those small boats through to Albany? A. Yes, sir; nearly all the lumber shipped off of the Black river goes to Albany; only a small portion of it stops this side of there.

Q. Do you send any to Rochester? .A. Never.

Q. Hasn't there been some this year? A. I couldn't say; Mr. Van Amber, I think, ships west somewhere, I don't know where; some goes to Syracuse, I think, from the Black river; my reason for shipping by large boats is this: I would have to have a great many small boats, and I would have to deal with irresponsible parties, and you give them their advances and you don't know whether they are going through or whether they are going to sink the boats; I have tried it years before, and it is a long distance and a very small load, and when they get down there they have not got half money to get back; and I have found it is much better to ship to Stanwix, and I can have my boats and know just where they are and can control them and get them on the Erie, and Black river boats is very much like a spider in a room and don't amount to much.

Q. What do you calculate your product will be next year? A. About the same amount, and it will for a number of years, if business gets any better; if lumbering business is any better I have a capacity to manufacture 10,000,000 of feet, and if it is any better I shall manufacture more entensively.

Q. And you use the Black River canal exclusively? A. Exclusively; I have not shipped 100,000 of lumber by rail since I have been here, seven years; I have not sent 150,000 of lumber to Utica or any other market this side of Albany; I never have sold, with the exception of 10,000 feet, this side of Albany; nearly all the markets of the lumbermen are Albany or Troy, with the exception of William Glen; he runs down all along the Erie.

Q. Some is shipped west to Syracuse? A. I don't know as to that.

Examination continued by Commissioner Chamberlain:

Q. Do you know what quantity is reshipped from small boats on to large ones at Stanwix during the year? A. I don't know, sir; I ship some small boats from Stanwix that are wild boats, and top them out and they go through; there is one thing more I would like to say in relation to tolls, when we started out the tolls were a cent a mile; I doubt whether there is a lumberman in this section of the country that can make both ends meet; I went on the Black River canal when the lumber business was very good; I made a large investment; my investment there is from $118,000 to $125,000, and, of course, if the canal should be abandoned my property would not be worth five cents on the dollar.

Examination continued by Commissioner WALDO:

Q. What does that property consist of? A. It consists of timber land and mills, boats, teams, etc., buildings; I have built some fifteen or sixteen new buildings; it consists of various kinds of property pertaining to my business.

Q. That is in what town? A. Town of Greig.

Q. What would be the effect upon the value of your property if the canal was abandoned? A. It would not be worth ten cents on a dollar.

Q. How much money did you put into that property? A. About $118,000.

Q. How long ago? A. Seven years ago.

Q. You invested it upon the theory that you could avail yourself of the privilege of the Black River canal? A. Yes, sir; for the last four weeks I have been turning out 60,000 a day.

Q. You have been manufacturing lumber there six years? A. Seven years; I was just a year building.

ROME, *November* 24, 1876.

Present, Commissioners Waldo, Chamberlain and Foster.

E. S. ABBEY sworn, testified as follows:

Examined by Commissioner WALDO:

Q. You reside at Stanwix? A. Yes, sir.

Q. Engaged in reshipping lumber? A. In shipping lumber, and grocery business.

Q. Well, among other things you are engaged in the reshipment of lumber? A. Yes, sir.

Q. What lumber do you reship? A. Hemlock lumber and spruce.

Q. Pine, some? A. Not much pine.

Q. From what county does it come? A. From Lewis county — Glendale.

Q. Brought over the Black River canal? A. Yes, sir.

Q. Brought down in small boats to Rome? A. To Stanwix; there unloaded.

Q. Then it is reshipped upon larger boats? A. Yes, sir.

Q. This lumber that you have reshipped this year, for whom was it done? A. For A. C. Eaton.

Q. Where does that enter the Black River canal? A. At Lyons' Falls, I believe; they go down the river about eight miles.

Q. It comes from beyond Lyons' Falls? A. It comes from about eight miles down the Black river, as I understand.

Q. Town of Greig? A. Town of Greig.

Q. To what extent have you reshipped his lumber this year? A. Well, about 2,500,000 so far, and I have got about 200,000 on the dock yet.

Q. This lumber that is reshipped goes as far east as Albany or Troy? A. It goes to New York.

Q. It goes through the entire Erie canal east? A. The whole entire length.

Q. If lumber was destined for a place this side of Albany, they would not reship, but send it through on the small boats that come down the river? A. That is generally the case.

Q. To what extent did you reship last year? A. Well, I think something over 2,000,000 last year.

Q. For how many years have you been engaged in this business at Stanwix? A. Well to make a business of it, about three years.

Q. All this lumber that is reshipped here, pays tolls where? A. Pays tolls at Utica.

Q. Boats are cleared at Utica? A. Cleared at Utica.

Q. This place of reshipment, Stanwix, being some distance east of the Rome collector's office? A. Yes; two miles east of the Rome collector's office.

Q. So clearances are made and tolls paid at Utica? A. Yes, sir.

Q. Have you reshipped lumber for others beside Eaton? A. Yes, sir.

Q. For whom? A. Lyon and Gould.

Q. To what extent? A. Well, that is not a great deal.

Q. That comes from where? A. That comes from Lyons' Falls.

Q. Have other parties been engaged in the same business? A. Read has shipped a good deal for Crandall.

Q. How much do you suppose? A. Well, his is a good deal of trap-turned stuff, fetched there and reshipped.

Q. How many boat loads probably? A. Well, this season he has not done so much; the season before that he did considerable, and the season before that; he used to keep two large boats of his own running steady most of the time.

Q. Is there any lumber going from Rome east, except what goes over that canal? A. Well, there is from this place here, Rome.

Q. Coming from where? A. A good deal comes from Watertown, but it is not transhipped.

Q. Is there any lumber transhipped at Stanwix, except what comes over the Black River canal? A. No, there is not.

Adjourned.

CORNING, *October* 17, 1876.

ALANSON J. FOX sworn, testified as follows:

Examined by Commissioner WALDO:

Q. You are engaged in business at Painted Post? A. Yes, sir.

Q. Your place of business is above Corning, the end of canal navigation, how far? A. Three miles.

Q. You are engaged in the manufacture of lumber? A. Yes, sir.

Q. What kind of lumber? A. Pine and hemlock.

Q. How extensively? A. We manufacture 10,000,000 to 13,000,000 a year.

Q. Where do you dispose of that lumber? A. On the Erie canal and Hudson river mainly; of course we ship by rail whenever we can sell it.

Q. How long have you been engaged in that business? A. Thirty years.

Q. Have you been shipping largely over the canal, that lumber? A. All that while; I have not been there thirty years; our concern has been in existence that length of time; my father came there thirty years ago.

Q. Have you shipped as much this year and the year before, as heretofore? A. No.

Q. Why? A. Because there has been no market for it.

Q. Have you a large quantity on hand? A. About 12,000,000.

Q. Upon what means of transportation do you rely for getting that lumber to market? A. Mainly on the Chemung canal.

Q. What would be the effect of the abandonment of this canal from here to Watkins, upon the lumber business? A. It would be a great loss to us.

Q. Well, immediately, to what amount? A. I should say $30,000 loss on the stock on hand; of course I can't tell; if the canal was kept up we might not have any market for it.

Q. Have you a supply of material for your mills for many years — will your business continue or will it not? A. Yes; it will continue.

Q. Are there other persons engaged in the manufacture of that same kind of material? A. Yes; a large number.

Q. To what extent? A. Well, I couldn't say.

Q. Any body here in Corning as heavily interested as you are? A. I think not quite; Walker & Lathrop are the nearest to it.

Q. How near are they; how much is their product probably? A. I don't know.

Q. Are there any mills in this vicinity whose outlet is the Chemung canal? A. Oh, I should say there are twenty-five or thirty.

Q. What would you estimate their gross annual product to be? A. Well, I should say 30,000,000; still it is rather wild guessing.

Q. For how many years will that probably be so? A. Well, I think it would taper out in five years; that is, I think in five years it would so nearly run out that the railroad trade would need it all.

Q. There are certain portions you have to ship by rail, those are portions that go to points which are not accessible by canal? A. Yes; where we can find a market there; but they hit it from other quarters.

Examination continued by Commissioner Foster:

Q. Do you speak more particularly in reference to pine lumber when you say it is going to taper off in five years? A. No, sir; I mean hemlock; the pine has virtually tapered out; we have not got over 5,000,000 of pine standing now; there is virtually no pine left in the country; there is not 10,000,000 of feet of pine, every thing in the country, that could be possibly be brought here.

Examination continued by Commissioner CHAMBERLAIN:

Q. About what proportion of your lumber goes by rail? A. About one-third of it; that has been pine lumber; very little hemlock; now we have just got into the hemlock.

Q. That I suppose goes to stations this side of New York? A. Oh; we never ship any thing to New York; every thing going to New York goes by boat; that goes to Goshen, Middletown and stations this side of New York; our pine is pretty near all gone; from this time forward it will be pretty much all hemlock that will be shipped by rail.

EVENING SESSION

STEPHEN T. HAYT sworn, testified as follows:

Examined by Commissioner WALDO:

Q. You reside at Corning? A. Yes, sir; and have for many years.

Q. At one time you were Canal Commissioner? A. Yes, sir; from 1867 to 1870 — three years.

Q. This Chemung canal was in your division when you was Canal Commissioner? A. Yes, sir; and I was then particularly familiar with it; and was then familiar with the condition of the locks and bridges and aqueducts.

Q. Have you had any acquaintance with the canal since? A. Oh, I have been along it since.

Q. Frequently? A. Oh, yes; that is, along it as far as the railroad would carry me; you know the railroad runs along side of it; I have never driven over it since I was Commissioner.

Q. Have you been to Elmira since the part through the city of Elmira was shut up? A. Yes, sir; and know substantially where it is.

Q. And do you know now where the end of navigation is this year on that canal? A. I suppose it is at the lower lock, about a mile or two below Horseheads.

Q. Would there be any difficulty, in your opinion, in abandoning the balance of that canal from Horseheads down to that place? A. I should think not, sir; it could be done by simply damming up the canal at Horseheads.

Q. You think the water of the canal could be drained out so that there would not be any damage to landowners particularly? A. I should think there would be no difficulty.

Q. Probably landowners would be willing to assume all that for the purpose of obtaining the land? A. That would be my idea; I have understood that they were all in favor of having it abandoned down through there; I should think it could be done with very small expense, if any.

Q. At Corning are there any industries particularly dependent upon this canal? A. I think there are, sir, perhaps not dependent upon it, but there are a great many industries that I think would be injured very much by its abandonment.

Q. Name them? A. I think the lumber interest would be much injured; I think that there is a large manufactory of glass here where they get their sand and heavy stuff entirely by canal.

Q. Where do they bring that from? A. From Massachusetts and down on the Hudson.

Q. It comes all the way from Albany? A, Yes, sir; then there is a large plaster interest here.

Q. That plaster is obtained where? A. That is obtained on Cayuga lake; that comes over the Cayuga and Seneca and Chemung.

Q. Brought here in stone and milled here? A. Yes, sir; although there is some brought here already ground in boats; there has been, but there has not been much, I guess, for the last year or two.

Q. How much is there of that business on the Chemung canal? A. Oh, I think there must be six or seven thousand tons a year.

Q. There are mills sustained here by that business? A. Yes, sir; there are two large mills at Havana, one at Millport and also at this place; there is a good deal of grain that comes up over the Chemung canal, and there are plaster-mills here, and that also use the canal; I can't tell you the quantity, but there is, of course, a large section of country that is supplied with salt; that all comes by canal.

Q. Would there be a difference in price whether it was shipped over the canal or by railroad? A. Oh, yes; I don't know; you have to ship on three or four different roads to get it here, and you can judge of that; there would be a good deal of expense.

Q. From your knowledge of the canal, when you was Canal Commissioner, and from what acquaintance you have had with it since, by observation, what is your opinion about the expense of keeping the canal in repair from here to Watkins for one, two, three or four years? A. Oh, I should think the canal might be kept running for the amount of business now that is required to be done over it, from $25,000 to $30,000 a year; that is, for that number of years, for three or four years, as long as the old locks would answer by repairing without rebuilding.

Q. That would depend upon whether there was any freshets by which the locks would be injured? A. Oh, of course.

Q. All the locks and the bridges are considerably out of repair? A. Yes, sir.

Q. Many of them are very liable to go out? A. I suppose they are, but with care I think very likely they might remain for two or three years; I don't know that they look any worse now than they did two or three years ago; there is an old lock down here I know; I thought, while I was Canal Commissioner, I would have to rebuild it, but I didn't, and it has been kept running and is running yet, and I don't know but it looks about as well as it did three or four years ago.

Q. You don't think this canal diversion of the Chemung river into Seneca lake is necessary for feeding purposes to the Erie, do you

A. I think it is necessary for the Oswego and Cayuga and Seneca, at times; I think that, at times — of course to-day it is not necessary — but I think there has been a great many times within the last ten years that it was very important, both for the Oswego canal and the Cayuga and Seneca to have it.

Q. And there has been times when you were Canal Commissioner that you turned the water into Seneca lake? A. Yes, sir; I turned it into Seneca lake six weeks before the opening of navigation one year; Commissioner Wright did it for two years, I guess.

Examination continued by Commissioner FOSTER:

Q. In case this canal should ultimately be abandoned, can this water be continued that way to any advantage, do you think; would there be any liability of damage by any diversion of this water from this river into Seneca lake? A. I think that has already been paid for.

Examination continued by Commissioner WALDO:

Q. In case this canal should be abandoned from here to Watkins, there would be no embarrassment in letting the water off, would there? A. No, sir; take this dam out and that would be the end of it.

N. S. SOMMERS, collector at Corning, presented to the Commission a statement of the tolls received on the Chemung canal at Corning. Marked Chemung Canal Exhibit, No. 1.

HORSEHEADS, *October* 18, 1876.

BENJAMIN WESTLAKE sworn, testified as follows:

Examined by Commissioner Waldo:

Q. You reside at Horseheads? A. Yes, sir.

Q. And engaged in the business of manufacturing brick? A. Yes, sir.

Q. And have been for how long a period? A. Well, I commenced here in the spring of 1858.

Q. And are still continuing your business? A. Yes, sir.

Q. You have manufactured this year how many brick; state as near as you can? A. As near as I could guess — I should have to approximate to it now — I should suppose about 5,000,000 this year.

Q. How many last year? A. I think I made about 5,500,000 last year; I made between 5,000,000 and 6,000,000 last season, and the year before that it went to 6,500,000; the year before that, and for several seasons, I made about 6,000,000.

Q. You employ, this season, about how many men? A. This season, in July, I had seventy-one; the average would be, for about five months in the season, somewhere about seventy men, sixty-eight to seventy.

Q. You send those brick to other markets than the local market here? A. Yes, sir.

Q. Do you send brick north to the Erie canal? A. I do.

Q. Where? A. Well, I have been sending this season to Palmyra; quite recently, and have furnished quite a large amount of brick for the Willard asylum. I have been sending brick to Elmira; I have sent brick there to public buildings; several churches, the gas works, and some of the main buildings in Elmira; large blocks of them.

Q. What means of transportation do you use in sending your brick away from here? A. Well, I always used the canal until they shut me off there (at Elmira); now I have to use the cars to Elmira; they shut me off so far back that I could not use my boats to any advantage.

Q. Do you have boats? A. I did have two boats; I have got one now that I keep for that purpose.

Q. How would the closing up of this canal affect your business? A. Well, I consider that it would damage me very much; very materially — my prospects in the future.

Q. How far is your yard from the canal? A. Well, I should judge it was about twenty rods, and have a tramway from my yard to the canal.

Q. The brick that you ship by canal are loaded at your yards and taken on this tramway to the canal and there put on the boats? A. Yes, sir.

Q. Which is the cheapest — the delivery on the canal or on the rail? A. It has always been far cheaper on the canal.

Q. Can you put your brick aboard of canal boats cheaper than aboard the cars? A. It is just about even; it is a little more expense to put the brick on the boats, that is, a large boat; it is cheaper to load on my small boats; it would take about the same men to put the brick on the boats that it would on the rail.

Examination continued by Mr. Foster:

Q. What is the farthest point to which you transport your brick by water? A. Well, Palmyra, probably, is about the extent at present.

Q. The difference between the old process of manufacturing which you have been pursuing and the new process will allow you to extend the distance? A. I think it would extend the distance very materially; I think I shall touch a market for my brick which I have never had before; I think I shall extend it to Syracuse, when they want a good article, and to Rochester, and to quite an extent; that is my candid opinion about it, and that is my expectation; of course, I couldn't do any thing by rail to Rochester; I could send them there by canal, but I must compete with the Rochester men.

Q. What is the extent to which you can send now by rail? A. I send brick by railroad to Canandaigua, and on as far as Victor; and I send them west up as far as Wayland, on the Erie; I have sent south as far as New Jersey, for some railroad men; I send a good many brick to Susquehanna for railroad purposes, and I send brick to Salamanca for the railroad company; down at Troy in

Pennsylvania, I have had quite a market; that is thirty-one miles by railroad from here; I have sent a good many brick to Bath, heretofore; I think I shall send brick there now for the Soldier's Home; but my best markets were on the canal until they begun to close them up; if they had only continued this canal I could send brick all the way from here to Pittston; before the canal was closed I sent brick for the court-house down at Tombannock; Elmira furnished me a large trade; I think it was only three or four years ago I kept a boat almost daily running to Elmira with from twenty to thirty thousand brick daily, and now I could compete in Elmira with other brick-makers, much better if I could only have the canal, but my hopes for the future will be very much cribbed; I never should have set down here to make brick if it hadn't been for the encouragement held out by the canal; I had other chances down in New Jersey at the time, and if I had devoted the same energy that I have here, I think I would have been largely ahead if I had stopped there — that is, if they abandon the canal; now, probably I am just as well off if the markets should keep up, providing I could have the means to get the brick around.

Examination continued by Commissioner WALDO:

Q. How much capital have you got invested in this brick manufacturing? A. The fact is it would be hard telling now; take my business out and the property is not worth but little; you could not sell it, of course, for only what the land is worth; if I could be assured of the canal, I should value it much higher than I will if I don't have it; if this process that I am getting up should answer, I think I have got material here to last a hundred years.

By Commissioner CHAMBERLAIN:

Q. What use would this canal be to you in its present condition from here to Elmira? A It is of no earthly use to me in its present condition; I can't use it; but I will tell you what our canals are good for, but people don't realize that; I think we want our canals in good running order to keep railroads in check.

By Commissioner WALDO (continuing):

Q. So you think this canal can be run from here to Watkins, three or four years, without extensive repairs? A. I think so far as the locks are concerned, no doubt the tops of the locks would want to be repaired, and the gates would want to be fixed up some; the body of those locks is nearly as good as ever; I presume some of them may need to have a few feet of the face taken down, but the bottoms of those locks are just as good as the day they were built; but when they built them the last time, they took much better timber out of the bottom of many of those locks than they ever put in again; the face of the locks, no doubt, would have to be built up; that is, above water, and the gateways; but when our canals are gone and we are turned over into the hands of the railroads, it looks to me as though it was going to injure this part of the country very much.

Q. On the upper part of the lock where the facings are gone, the timber also is gone? A. Yes; I think likely on a good many the timbers are rotten, but the timbers that are put in the cribs, I have no doubt, are sound, except, perhaps, it might be the top timber lying near the top of the ground.

Q. Are there any other industries here that are dependent on this canal? A. There are industries that it more or less affects; plaster mill; there is a saw mill down below here; two grist mills here; besides that it will affect the general trade in some degree as a matter of course.

Q. Why? A. Salt; the salt is all brought here by canal; I never knew of any coming any other way, except in the winter time, a little coming up off of the boats that were frozen up, or something of that kind.

Q. How will the discontinuance affect your village? A. It will make it cost more for all heavy freights that we get here to use.

Q. That is, the canal is a regulator of freights? A. I think it is considerable of a regulator of freights.

Q. Not of freights coming from the south? A. Not so much of the freights coming from the south as it is from east and north; if you want to buy any heavy articles in New York, and you are down there, there is no doubt it would make quite an odds in shipping them, even on the railroad, whether the canal was open or not.

Q. Suppose the contingency should arise that this canal should be closed, the Erie canal will be open, and the canal will be open from the Erie into Seneca lake, and you will have navigation up as far as Watkins, any way? A. Yes; but that wouldn't do me any good; merely having navigation to Watkins wouldn't help me any, because I can't load brick on cars and send them down there and transfer them — the rehandling and knocking and banging takes off so much.

Q. The rehandling, I suppose, makes some waste in the material? A. Oh, yes, and damages brick very much always.

By Commissioner Foster:

Q. Where do those boats get into the Erie canal? A. They go in through the Cayuga and Seneca canal at Montezuma.

By Commissioner Waldo (continuing):

Q. Now, what is the difference in distance that you can transport, by canal or by rail, your brick; how much difference would there be between the limit of your market by railroad and the limit by boat? A. The way I have it now I have a market on railroads as well as on the canal.

Q. How far can you transport by railroad north? A. Well, I have transported as far as Victor north, which is nearly seventy-three miles; that has been the limit north.

By Commissioner **CHAMBERLAIN**:

Q. What was the freight per thousand from here to Victor by rail? A. It was two dollars and fifty-two cents, with about a dollar added; that would make three dollars and fifty-two cents.

Q. What is it per thousand from here to Palmyra? A. Two dollars; that includes every thing.

Adjourned.

For testimony of Calvin Shelton, superintendent of the Chemung canal, see testimony in reference to the Crooked Lake canal, page 149.

PENN YAN, *October* 19, 1876.

OLIVER G. SHERMAN sworn, testified as follows:

Examined by Commissioner **WALDO**:

Q. You reside at Penn Yan? A. Yes, sir; and have forty-two years.

Q. Engaged in transportation business? A. Yes, sir; and general produce business.

Q. Any occasion to use the Crooked Lake canal? A. Yes, sir.

Q. Have you heretofore? A. Yes, sir.

Q. In what way? A. In the trade of shipping grain from here to New York, and points this side.

Q. To what extent? A. I should say, to speak within bounds, it would average 300,000 bushels a year, until within the past two years.

Q. Why not so much, within the past two years? A. Well, the past year we had no canal here; I have not figured up the year before, but I should say it would average 300,000 bushels since 1860, until this year.

Q. You say you shipped it to New York and points this side? A. Well, principally to New York; occasionally to Albany, but very seldom.

Q. Any this side of Albany? A. No, sir; oh, there has been, possibly, ten boat-loads in the fifteen years at Ilion and those points, to millers.

Q. What grain is it? A. Oh, it is wheat, oats, rye, barley.

Q. Are you doing that business this year? A. Yes, sir.

Q. How much do you do this year? A. Well, we are shipping some by water from Dresden, a point on Seneca lake, the outlet of this canal.

Q. How do you get it to Dresden? A. Cart it over the country by teams.

Q. From thence it goes by boat to New York, the same route that the boats would have taken if they had gone through this canal? A. Yes, sir.

Q. Ship any by rail? A. Yes, sir.

Q. To what extent have you used the rail heretofore, when this canal was in operation to New York? A. Oh, not any, scarcely.

Q. Do you use the canal for any other purpose than exporting? A. We don't direct, though we receive merchandise from New York, Albany, Troy and Syracuse.

Q. To much of an extent? A. Well, there has been years to the amount of 1,000 tons, perhaps; some years less.

By Mr. STRUBLE:

Q. Don't you know, as a matter of fact, that nearly all the heavy hardware that is brought to this town from Albany and Troy is brought by canal, and has been for years? A. Yes, sir.

By Commissioner WALDO (continuing):

Q. What is the extent of goods brought here by boat heretofore? A. Oh, I couldn't tell without looking over the shipping book, but making a rough estimate, I should say previous to the last two years, the receipts of merchandise in the way of hardware, groceries, heavy goods, etc., would run in the neighborhood of 2,000 tons a year.

By Commissioner CHAMBERLAIN:

Q. That would include coal and salt? A. No, sir; that is just merchandise.

By Commissioner WALDO (continuing):

Q. How is it about salt? A. All the salt came by water previous to this year.

Q. How is it about lime-stone? A. Lime-stone all by water.

Q. Is there much lime-stone used? A. Yes, sir; quite a good deal.

Q. What tonnage? A. I couldn't tell you; there is a gentleman here that can give you a better idea than I could; there is a good many flag stone brought here from off the Cayuga lake, and also plaster brought here in the stone, and milled here; those materials, salt, and plaster, and lime-stone, have been heretofore brought entirely by canal.

Q. How are they brought here now? A. Well, I guess there has not been any lime-stone nor plaster-stone brought here the past year; but salt and water-lime are fetched here by rail; a certain amount of Liverpool salt comes here from New York, but the large portion of the salt we use is Syracuse salt.

Q. How much grain have you sent from here this season to go from Dresden, by way of the canal, to New York? A. 58,170 bushels.

Q. That has been all taken from here to Dresden by wagon? A. Yes, sir.

Q. And would have been taken by boat if the canal had been in navigable order? A. Yes, sir; and half as much more if we had had a canal.

Q. You say you gather grain in from the shores of the lake above? A. Yes, sir; we have formerly; we did not this year; heretofore, we have bought it at different points on the lake.

Q. At what places? A. At Cayuga, at Gibson's Landing and at a point called Ross Landing.

Q. And that is brought here on the lake and there shipped by you over the canal? A. Yes, sir.

Q. Where does that go now? A. That drifts to the Erie road, a good majority of it.

Q. What proportion of it goes by rail? A. Well, I should say very nearly all.

Q. Does any of it get to the Erie canal? A. I think not; possibly there might some by Seneca lake, but a very trifling amount.

Q. So that trade is diverted? A. Oh, yes sir, entirely.

Q. To what extent; how many thousand bushels? A. Well, I couldn't tell only from our own trade; we have bought upon the lake some falls as high as two hundred thousand bushels of various kinds of grain at the two points; a year ago last fall we bought about twenty-five thousand at one point; the other point we did not operate at; other parties did business there.

Q. Is there any lumber to any amount shipped here? A. No, sir.

Q. Has not been for a number of years? A. No, sir; some little went off last year, but to what amount I can't tell.

Q. The transportation of the articles you have reference to, is the principal business for which the canal is used? A. Yes, sir; the products of the county; there has been a great many apples shipped by water previously.

Q. How are they taken this year? A. By rail; some grapes; no very great extent of grapes, but a great many apples; some grape wine and cider, but not to any very great extent.

Q. This grain trade that you have been engaged in, and that export trade that you have been engaged in, will it increase or diminish for the next five or ten years, if the canal is kept in navigable order? A. It will hold its own for the next five years if we have a canal; if we don't it goes away from here.

Examination continued by Commissioner FOSTER:

Q. Is it not the fact, that the trade which you speak of as formerly being discharged here, has been diverted to Pennsylvania to a great extent — is being carried into Pennsylvania? A. It is this last year, because we have not had transportation here by water.

Q. Well, is not that likely to increase the diversion of this produce into Pennsylvania? A. It is, most assuredly, if we do not have water navigation; the interests of the railroad through this section of the country are entirely Pennsylvanian; they will give us a rate of freight to-day from here to Baltimore and Philadelphia, at three cents a hundred pounds cheaper than to New York; they want the trade for Philadelphia; well, Philadelphia for barley, at certain seasons of the year, is as good as New York or Albany, but for wheat and oats, and corn and rye, Philadelphia and Baltimore are nowhere, as compared with New York.

Examination continued by Commissioner WALDO:

Q. This railroad discriminates in favor of Philadelphia? A. Yes, sir; Philadelphia and Baltimore.

Q. Do you own any boats? A. No, sir.

Q. What is the capacity of this canal as to tonnage? A. Well, a small class boat goes over it with about eighty tons.

Q. Haven't you been troubled for the last two or three years in navigating the canal on account of bad places in it; shoal places? A. Not particularly with bad places, but on account of low water on the first level we have been troubled; I think the water was only two feet and some nine or ten inches above the miter sill here for some time last fall..

Q. Will the canal, in order to make it useful, need digging out at the bottom or cutting out any? A. Yes, sir.

Q. To what extent? A. Well, an estimate was made last spring that it could be put in repair, ready for summer use, for $1,500; in fair repair; of course you couldn't make a permanent bottoming out of the entire canal, but it could have been put in repair for about $1,500; we asked for an appropriation last winter of $2,500 to run this canal this season.

Q. The report shows that there was only about $126 of tolls collected on this canal last year? A. That is a matter that I could not explain at all.

Q. What is your recollection of the tolls you paid? A. I could not give you an idea here; I would have to look my books over to find out.

Examination continued by Commissioner FOSTER:

Q. In regard to the expense of discharging freight in New York, what is your experience in regard to the cost of delivery from the railroad or the delivery from the boat? A. The advantage, in nine times out of ten, of having produce on the boat is worth from a cent and a-half to two cents a bushel to the grain; it will fetch that much more.

Q. In consequence of the delivery on the water? A. Yes, sir.

Examination continued by Commissioner WALDO:

Q. For what reason? A. Well, if you bought ten cars of wheat aboard of track, you have got to cart it to your mill or to the elevator where you want it; if you buy ten cars on a boat, your boat is towed for ten dollars to the elevator and it is taken out; five dollars each way; as a general rule we ship five cars — they lighter five cars free on the Central road — we have shipped some that way last year, and there would be a variation in the five cars of an average of three to five bushels on a car shortage; you ship the same amount by boat, and you get the amount of your property when you get through; it is generally there.

Q. How much capital is invested in canal boats on this canal? A. There is eight owned here at Penn Yan, if this canal was opened would be worth on an average $1,000 apiece, that are to-day comparatively worthless; if you get them away from here there is no trade for them on the Erie canal for small class of boats; they will average three men employed to each boat, and a pair of horses; there is another thing I desire to state; one reason that there was not so much business for the canal in 1875, was that the wheat crop of this section of the country was entirely destroyed; there was no crop here; it was the same to a certain degree in 1874.

JOHN CONKLING sworn, testified as follows:

Examined by Commissioner WALDO:

Q. You reside in Penn Yan? A. Yes, sir.

Q. And are engaged in business? A. Yes, sir; I am engaged in the lime business, and also in the boating business.

Q. How long? A. I have been in the lime business four years; I have been boating for the last fifteen.

Q. Where have you been boating? A. I have done the principal part of my boating from Penn Yan on the canal.

Q. Been through to Albany? A. Yes, sir; to New York.

Q. What amount of tonnage do you use in your business? A. We generally boat up from five to six hundred tons a season.

Q. Where from? A. Waterloo.

Q. You manufacture it into lime? A. Yes, sir.

Q. Use the canal for transportation purposes of your lime? A. We do; I presume it is the only way we can get it here to compete; we boat the stone here.

Q. This season, how have you got your stone here? A. We boated enough the season before to take us through this season.

Q. What effect upon your business would the abandonment of this canal have? A. I suppose it would do away with our kiln entirely; I do not suppose that we can compete by getting our stone here by rail; I don't know as we can get them here at all; there is no facilities as I see; the only way would be to get them boated to Geneva, and then get them from Geneva by rail, and then cart them from the depot to the kiln.

Q. How many men do you employ in your business? A. On an average about three; there is about three of us working in the lime business.

Q. What is your capital invested in business? A. Our kiln cost $2,000, and we have to pay a lease for the ground it stands on of $200 a year, in the lime business.

Q. Do you have boats? A. I have another boat; this lime business is run by the company; I have a partner, but I have an individual boat that I have been using for the last seven years.

Q. Your company have a boat also? A. Yes, sir; our company has a boat which has had to lay comparatively idle.

Q. Those are canal boats? A. Yes, sir; what little we could pick up on the lake to do, we have done with it, but aside from that we couldn't do any thing; my partner don't work on the kiln much himself; he has always attended to running the boat, and boating our stone, and then when we were not doing that he would be boating for other parties, and have made the business successful — made it pay.

CHARLES E. O'BRIEN sworn, testified as follows:

Examined by Commissioner WALDO:

Q. You reside in Penn Yan? A. Yes, sir.

Q. Engaged in business? A. Yes, sir; in the coal business.

Q. Have been for how long a period? A. About fifteen years.

Q. Do you use the canal for transportation purposes? A. Yes; always have.

Q. To what extent? A. Well, for all my coal every year except this last year.

Q. What is the tonnage that you bring over the canal? A. About 3,000 tons a year.

Q. For what length do you use the canal — simply the Crooked Lake canal? A. Crooked Lake canal, and the Chemung canal; I have used the Chemung canal more than I have the railroad.

Q. Your coal is mostly taken from Watkins? A. It is now for the last year or two.

Q. And probably will continue to be? A. It looks that way now.

Q. Aside from your boating of coal, for what purpose do you use the canal? A. Have been handling apples; we put them in the boat here and take them to Geneva, and ship them to Lehigh Valley railroad; I suppose it is the Geneva and Athens railroad.

Q. Where do they go this year? A. We haven't handled any apples this year, because we couldn't get freights low enough; I handled 10,000 barrels last year.

Q. Any other parties here engaged in the business? A. Yes, sir.

Q. How much did they handle? A. I suppose as much as I did; in all, I suppose there was 30,000 or 40,000 barrels of apples handled here.

Q. What has become of that business? A. It is drifting off; this year it goes to the Erie railroad; that trade is entirely diverted from the canal.

Q. If this canal was in operation, how would it be? A. If this canal was in operation it would make a good deal of difference.

Q. Would you be able to continue that trade then? A. Yes, sir; we could ship apples on the boat here, and take them to Geneva, and save from ten to fifteen cents a barrel by not shipping them over this road; if they are shipped over this road they go to the Pennsylvania market and not to the New York market direct.

Q. Then, to that extent, it is a diversion of the trade from New York to Philadelphia? A. Yes, sir; New York to Philadelphia and Baltimore and Harrisburg.

Q. How do you get your coal here now? A. Have to get it by railroad.

Q. Is there any difference in the cost to you? A. Yes, sir; it makes about thirty cents a ton difference.

Q. What proportion of coal used in town here was brought by canal while the canal was in operation? A. Well, sir, there was about 6,000 or 7,000 tons brought here by canal, when there was only about 2,200 to 2,500 brought by railroad; that is, here in the village; but there was other coal went up the lake; it went up through this canal; other coal, probably 2,000 or 3,000 tons more.

Q. What proportion of the coal used here in this locality is brought by canal and brought by rail? A. Well, 6,000 tons brought by canal and about 2,000 or 2,500 brought here by rail; I was speaking of the three coal yards in town; I have had coal brought from Watkins by boat for from sixty to seventy-five cents a ton, and as soon as the canal was shut up the railroad company charged us three dollars a ton by rail.

Q. What did they charge during the time the canal was open? A. They charged about a dollar.

By Commissioner CHAMBERLAIN:

Q. This freight was three dollars a ton on coal? A. Yes, sir.

Q. What is the distance? A. Twenty-two miles; because they knew I couldn't get it any other way they put the price right up.

By Commissioner WALDO (continuing):

Q. That was an exception, wasn't it, three dollars a ton? A. That was all through one winter that I paid it.

Q. I asked you what proportion of coal consumed here in the village was brought by canal boat; I didn't know but you made a mistake; include all these coal yards and give us an estimate. A. Two years ago, I think, there was seven thousand tons brought here by canal — hard coal; that has nothing to do with the malt-house; that was brought by boat, too; that would be added to that, and I think they burn about three boat loads there — about two hundred and forty tons; steamboat coal, about a thousand tons, and was also brought by boat; that will make, then, between eight and ten thousand tons brought by boat.

Q. How much more than that was consumed here? A. There was another yard here at the railroad, which they claim sold from twenty to twenty-five or twenty-six or twenty-seven hundred tons of coal, which was brought by railroad.

Q. Is that all? A. That is all.

Q. Then there would be a consumption of about twelve thousand tons, of which nine or ten thousand tons are brought by boat? A. Yes, sir; there is a number of boat loads of lumber come here every season.

Q. That was imported, not exported? A. Yes, sir; we don't export any.

Examination continued by Mr. STRUBLE:

Q. In regard to Mr. Hunter shipping apples; Mr. Hunter has been in the apple trade here? A. Yes, sir.

Q. Do you know where he ships his apples? A. He ships the iost of his apples to New York.

Q. He has shipped a large quantity of his apples to Scotland, asn't he? A. Yes, sir.

Q. How has he been in the habit of shipping? A. When the anal was running he has been in the habit of putting them on a anal boat and shipping them to New York.

Q. In going to New York they went through on the Erie canal? . Yes, sir; and we shipped eight hundred barrels last season to ew York by canal.

Q. Do you know about how many barrels of apples Mr. Hunter as been in the habit of shipping a year? A. No; I could not tell ou; he claimed though, that he bought as many apples as we did, not more; he buys a great many apples.

Q. He has told you that, hasn't he? A. Yes, sir.

Q. That would be ten thousand barrels? A. Yes, sir.

Q. Do you understand it to be a fact, that Mr. Hunter has shipped is apples through the canal to New York, portions of them stopping iere and others going to Scotland, or not? A. He shipped some New York, and the most of them went to Scotland.

By Commissioner Waldo:

Q. All that he shipped to New York, of course, went through the ntire length of the Erie canal? A. Yes, sir.

By Mr. Struble:

Q. Do you know whether he is buying any now? A. He is buyng a number of barrels now, but he is not buying as many as he did ist year and the year before, because he can't get the transportation w enough.

Q. You think you have stated fully the amount of apples purchased this country for shipping, do you? A. Yes, sir.

Augustus W. Franklin, sworn, testified as follows:

Examined by Commissioner Waldo:

Q. Do you reside at Penn Yan? A. I do.

Q. Engaged in business? A. Yes, sir.

Q. What kind of business? A. Plaster-mill, at the first water rivilege below here.

Q. Is your mill along the line of the canal? A. Yes, sir; directly the bank of the canal.

Q. Do you use the canal for any purposes connected with your usiness? A. I have, sir.

Q. What? A. Boating plaster stone.

Q. Where do you get your stone? A. On the east side of Cayuga ke; bring it forty miles by canal boats, down the Cayuga lake d then through the Seneca river and this canal here.

Q. What is the extent of your tonnage? A. It averages about 000 tons a year; I boated 1,500 tons last year.

Q. How long have you been engaged in that? A. Twenty-five years; this mill has been built twenty years; we have averaged, for the last twenty years, probably 1,000 tons a year.

Q. Do you get your entire supply by boat? A. Yes, sir.

Q. What would be the effect of the abandonment of this canal on your business? A. Probably use up the mill, unless I depend on this railroad entirely.

Q. Can you bring the stone by rail? A. Yes, sir; but I am compelled to carry it from the railroad to the mill; that would be an additional expense, and the freight on the road would be higher than by the canal.

Q. What would be the difference per ton, do you suppose? A. I don't know; I have not ascertained yet.

Q. Would the abandonment of the canal injure you? A. Yes, sir; they would bring in ground plaster by rail probably, and I would be unable to compete with that.

Q. How many men do you employ? A. From three to five; average four men, probably.

Q. You supply the locality here with plaster? A. Yes, sir; there is another mill at Branchport, that would be used up entirely if the canal was closed.

Q. That is how far from here? A. Eight miles; at the foot of the other branch of the lake — west branch, on Crooked lake; they bring their supply entirely by boat; unable to get it any other way; probably 500 tons a year.

Q. The effect then of the abandonment of the canal, would be to increase the price of plaster? A. Yes, sir.

Q. Do you use the canal for any other purposes? A. I do not at present; no, sir; I have not in the last eight years.

Q. What is the capital invested in your business? A. About $15,000; the stock and value of the mill; merchandise consumed in Branchport is brought now by rail over the Erie to Bath, and thence over railroad to Hammondsport, and by boat to Branchport, twelve or fourteen miles, which heretofore has been brought by the way of the Erie canal and the Crooked lake, directly to Branchport.

Q. To what extent? A. I don't know; for the past three years previous to this year the water has been very low here; the lake very low, and we had no water at all on this level; it took trade away from this canal, to a certain extent, because we could not get it off; because it was not navigable; we had no water; I know it required three trips to bring an ordinary boat load from Dresden up here?

Q. What is the cause of the shoal water; is it by reason of the filling up of the canal, or is it because of the deficiency of water? A. I suppose it was because of the deficiency of water in the lake at that time; that is the way I understood it.

Q. Do you understand that it would require any particular amount to clean it out and put it in navigable condition? A. I don't know what the condition is at present; I should think not; we have a feeder at our mill the first lock below here; water passes through our mill and into the canal.

CALVIN SHELTON sworn, testified as follows:

Examined by Commissioner WALDO:

Q. You reside at Havana? A. Yes, sir; and am superintendent the Chemung and Crooked Lake canal.

Q. Have you been this year over both of them? A. I have.

Q. In what condition are the locks from Watkins up to Horse-ads? A. Well, they are old locks, the most of them are wood ks.

Q. Linings all wood — the facings you call them? A. Yes, sir.

Q. Wings? A. There are several of them that have stone wings; ir, I think.

Q. Does the water pass through the wings much? A. Yes; they k very badly — the locks do; the principal leakage is under the der side of the locks; under the floor timbers; it leaks from the ad of the wings through around where we can't stop it.

Q. Can you repair those? A. We could not stop the principal ks without taking up the entire lock, in all probability; stop em partially by digging out the embankment on the side of the ll and puddling it down as far as the water line of the lower level, a little below that.

Q. Are the locks from Watkins up to Horseheads pretty near all same? A. Very nearly; there is not much difference in them.

Q. How long since they have been repaired? A. A portion of em, I think, were built some eleven or twelve years ago; the lance, some fifteen, sixteen or seventeen years ago.

Q. How is it with the locks from Horseheads up to Corning? A. hose are better; the locks on the feeder — the average of them — better than the locks on the main canal — in better condition.

Q. How is it with the locks from Horseheads to Elmira? A. I nk those are as poor locks as there is on the line, probably; will ve out as soon as any there is.

Q, How is it about the bridges from Watkins to Elmira? A. The idges are all old; principally old wooden bridges.

Q. Some of them unsafe now? A. They are not unsafe, but it is rd telling when they will be pronounced so; they are old bridges d have been repaired this spring or summer, so that they are safe present.

Q. There is scarcely one of them but what will need, each year, pairs? A. No; they will all need repairs each year.

Q. How is it about the aqueducts? A. The aqueducts are very or; old; they are probably the poorest structures there is on the nal.

Q. How is it about the banks of the canal? A. The banks are mparatively good.

Q. How is it about the dam at Corning? A. That dam is good present; more than half of the dam is new — put in in 1870 — d the piers new — put in at that time; the balance of the dam is remnant of the old dam.

Q. How is it about the locks on the Crooked Lake canal from

Dresden to Penn Yan? A. Half of those locks are comparatively new stone locks; rough stone locks.

Q. How about the others? A. The others are wooden locks; they are oldish, but still will need but very little repair to be serviceable.

By Commissioner CHAMBERLAIN:

Q. Are they in better condition than the Chemung wooden locks? A. I think they are; will stand more service.

By Commissioner FOSTER:

Q. How many locks on this canal? A. Twenty-seven.

By Commissioner WALDO (continuing):

Q. Have you been over the Crooked Lake canal this summer? A. I have.

Q. With a view of estimating the expense of putting it in navigable condition? A. Yes, sir.

Q. What did you estimate the expense to be of putting it in navigable condition? A. In round numbers, $500.

Q. What did you estimate the expense of keeping it in running condition during the summer? A. Well, providing we had no breaks it was not necessary to keep but two men on the canal, at lock tenders' wages, thirty dollars a month perhaps.

Q. Do you think it could be done next year for any thing like that amount? A. It depends altogether on the winter; with an ordinary winter I think probably the expense would not be increased more than a couple of hundred dollars, or two or three hundred dollars.

Q. You didn't include in that any estimate for extraordinary repairs, or breaking out of the locks, or anything of that kind? A. No, sir; only the necessary repairs to let the water in in the spring; that is, if it winters as well as it did last winter; there is a creek below here, this side of Dresden, that comes in; if that creek should take a start and fill up the canal there with gravel, that is an extra expense.

Q. How is the bottom of the canal? A. It needs bottoming out in some places.

Q. Suppose it was not bottomed out, boats with how heavy tonnage could get through? A. They carry from seventy to eighty tons.

By Commissioner FOSTER:

Q. Are there any bars in it now? A. Nothing of any consequence; nothing but some loose gravel bars that washed in from these creeks; aside from the natural fill of it; I suppose it has not been bottomed out in several years.

By Commissioner WALDO (continuing):

Q. You have been all over this canal, carefully, two or three times? A. Yes, sir.

Q. How is it about the canal from Watkins up to Horseheads —

bottom of the canal? A. Well, if you make navigation as good it was in the canal fifteen or twenty years ago, you would neces-ily have to bottom it out the entire distance, but we get along with s it is, and boats draw the same amount of water, four feet; we get ng with it by filling the canal a little fuller; we have to be cau-us with it to keep it from breaking over the banks.

Q. What is the probable length of time those locks would last, m Watkins up? A. I should say the average from three to five ars.

Q. Then they would have to be renewed any way? A. Yes, sir.

Q. Could they be repaired without being rebuilt wholly? A. A rt of them might, but I don't think any very great portion of m; I don't think it would pay to rebuild them; that is, to repair m without building new locks.

Q. What would probably be the expense of rebuilding that kind d size and style of locks? A. Any where from $6,000 to $8,000; $6,000; it depends altogether upon the price of timber at the e you wish to repair them.

By Commissioner Foster:

Q. When you say $6,000, do you mean an entire new lock, bottom d all? A. I do.

Q. Do you think the bottoms will have to come out? A. I think most of them; the bottoms would have to come out in order to p the leakage.

By Commissioner Waldo (continuing):

Q. Do you know how many clearances you have had going from rseheads south to Elmira this season? A. I think about eight ats.

Q. Would there be any difficulty in letting the water out of that nal from Horseheads to Elmira, without damaging the people along line? A. I think not; I don't know of any place.

Q. Would there be any difficulty in letting the water out so that nds of water would not remain in the bottom of the canal? A. hink not.

Q. The same would apply to all the canal from Corning to Wat-ns, wouldn't it? A. No, sir; not from Corning.

Q. It would apply from Horseheads to Watkins? A. It would ply from Horseheads to Watkins.

Q. Supposing the water was turned out of the canal at Corning? . Well, there is a great portion of the feeder that the surface water ould collect in the bottom and stand there; no means of draining off that I know of, without making a drain of several miles to carry off.

Q. It goes through a pretty good farming country? A. Yes, sir.

Q. Farms cultivated clear up to the line of the canal on either de? A. Yes, sir.

Q. Divides farms? A. Yes, sir.

Q. A good many farm bridges along there? A. Yes, sir.

Q. In your opinion, could not the farmers afford to take the body of the canal and discharge the State from any liability? A. Well, I don't know; that is a matter I have never inquired into; but from general knowledge I should say not; I should say they would not do it.

Q. What do you estimate the expense of taking care of that entire canal, from Watkins to Corning, and what has been done on the canal from Horseheads to Elmira, this year, will be at the close of navigation? A. Not to exceed $8,000.

Q. Does that include your salary as superintendent? A. That includes every thing.

Q. What will be the amount of tolls collected on that, which is earned by the canal itself, probably? A. You mean earned by the Chemung canal itself?

Q. Yes; I mean just what is earned by that canal? A. Probably from $2,200 to $2,500.

Q. The freighting done over that canal is confined mostly to boats that navigate that canal only, or is it made up mostly of boats navigating the Erie? A. It is boats that navigate that canal; boats owned by parties on the line of the canal; there is hardly a "wild" boat, as we call them, that comes on the canal.

Q. Where does this freight that goes over the Chemung, go to? A. A large portion of it goes on to the Erie.

Q. What places on the Erie? A. Well, that I can't tell, only from the report that we got of the shippers in Corning; I suppose it to go on the Erie, the greater portion of it.

By Commissioner FOSTER:

Q. Does not most of it go to Albany? A. There is some considerable portion of it goes to Albany and Troy; some to New York, of course; that goes through Albany; a great deal of it goes to Lockport; I know I have heard a good many of the boatmen say they were going to Lockport, and points beyond there.

By Commissioner WALDO (continuing):

Q. How many boats are owned on the line of that canal from Watkins to Corning? A. That is a question I can't answer.

Q. Probably how many? A. Oh, I should judge from fifty to sixty.

Q. What is the probable value; most of them are old boats, are they not? A. Most of them are old; I couldn't give you any estimate at all.

Q. They would not average $1,000 apiece, would they? A. No; I should say from $12,000 to $15,000 would cover the value of the boats; a great many of them could not be sold for over $150 or $200; they could not be used for carrying any freight but lumber.

Examination continued by Commissioner CHAMBERLAIN:

Q. What in your opinion, would be the probable expenditure of money necessary to keep that Chemung canal in navigable condition r the next three or four years — the annual expense — from Watins to Corning, leaving out the Elmira end of it, with what repairs ould be absolutely necessary to keep these locks held together, and eep the bridges in repair, and keep the canal in navigable condion? A. Not to exceed $10,000 per year; that includes salaries id all, every thing; I think it can be done a great deal less than iat.

Q. You would not repair the locks, then, on that? A. Well, iat would not build a new lock.

Q. You go on the hypothesis that the locks remain in about the ime condition they are now? A. Yes, sir; that will be necessary epairs only, not extraordinary.

By Commissioner **Chamberlain** (continuing):

Q. Were you with this engineer who made some figures as to the robable amount of water that the Chemung fed into Seneca lake, id thence into the Seneca and Cayuga canal? A. I was.

Q. Do you recollect what his estimate was? A. I don't recollect is figures; I recollect the conclusion that he came to.

Q. What was that? A. The conclusion he came to was that the uantity of water fed through there, that is, all they could feed, ould just about supply the evaporation of Seneca lake.

Examination continued by Commissioner **Foster**:

Q. You did not believe that engineer, did you? A. Well, I don't now whether I did or not.

Q. You believe that the water that flowed in from that canal was chausted by evaporation, in addition to the usual evaporation of eneca lake? A. No; I did not say that; that the flow of water irough that feeder would equal the evaporation of Seneca lake.

Adjourned.

Olean, *November* 15, 1876.

John G. Mersereau sworn, testified as follows:

Examined by Commissioner **Waldo**:

Q. You reside in Cattaraugus county? A. Yes, sir.

Q. You are in business in Cattaraugus county? A. Yes, sir.

Q. And have been for how long? A. Twenty-three years.

Q. What business? A. Lumbering, principally; farming and mbering both.

Q. Is your business upon the line of the canal? A. Yes, sir.

C. At what particular place? A. Principally at Portville.

Q. How large is your product? A. Well, we have made about 000,000 a year.

Q. How much have you used the Genesee Valley canal for transortation purposes? A. Along, when we first came here, we run a eat deal of lumber down the river.

Q. Down the river; you mean to Pittsburg? A. Yes, sir; until but a few years ago; about four or five years, and since that, altogether on the canal.

Q. Where is your present market for lumber? A. Rochester, and all along on the canal below and above.

Q. On the Erie canal? A. Yes, sir; on the Erie canal, east and west; we go above and below.

Q. What proportion of the lumber you send to Rochester goes on the canal; could you estimate it? A. It would be pretty hard for me to estimate without looking at our books; more than half of it; I should think 3,000,000 a year.

Q. To what places? A. Well, a good many different places all along; we send our lumber to all those villages all along.

Q. Send it as far east as Syracuse? A. We have, but not a great deal; we sold our pine two years ago at Syracuse, but we have not sent a great deal of hemlock to Syracuse; we have some, but not a great deal.

Q. How would your business be affected by the abandonment of the Genesee Valley canal? A. I think it would injure us very much; why, I think that our timber on the head waters of these streams would not be worth more than half.

Q. Your timber is principally hemlock? A. Principally hemlock; we have got ash, and a little pine and hard wood and some oak, some beech and some maple.

Q. Above you, on the Allegany, is there a supply for the mills in this locality, for any length of time? A. Yes, sir; a great many years; I think the Allegany and Oswayo has more than 800,000,000.

Q. There is a tract of country in Pennsylvania, adjoining Cattaraugus and Allegany counties, that finds the natural outlet for its lumber this way? A. Yes, sir.

Q. What is that timber in that locality? A. It is hemlock principally; there is some pine, but not a great deal; it is principally hemlock, oak, ash, beech and a great deal of maple; all this hard wood will be used by and by.

Q. There are other establishments at Olean, and between there and the Allegany, where lumber is manufactured? A. Yes, sir.

Q. How many? A. Smith's is first; Weston Brothers next; Gordon's next; Wheeler & Dusenbery next; ours is next; Weston, Mersereau & Co.; we have three mills; H. B. Smith next, and Smith & Wilson's; Chamberlain's is right on the State line; there is Woolover's that I did not think of; Albert Crandall's, also.

Q. What is the capacity of those mills? A. Smith's is about 300,000; Weston Brothers, about 17,000,000; Gordon's, 7,000,000; Wheeler & Dusenbery, about 3,000,000; Weston, Mersereau & Co., about 10,000,000, for the three mills; H. B. Smith, about 3,000,000; Smith & Wilson, 7,000,000; Chamberlain's mill, 10,000,000; Albert Crandall's, 300,000; Woolover's, 3,000,000.

Q. Where do the products of these mills find a market? A. Our market now is altogether on this canal.

Q. Any portion of it go elsewhere, aside from the local market? A. Yes, sir; Weston run off some of their pine on the railroad.

Q. Any portion of it go by water elsewhere? A. Yes, sir.

Q. To Pittsburg? A. No, sir; not to Pittsburg; there is some mber run from up the river; a little; I don't know how much; t any of these mills I have mentioned; there is not a foot of their oduct that goes down the river.

Q. For the last two or three years, have you shipped over the enesee Valley canal that quantity estimated by you? A. No; e, individually, have, but other millowners along have not; Wes-n has sent a good deal on the railroad, and Wheeler has sent a od deal down the river, and some of them have large products on nd; Weston has a very large stock on hand, and Wheeler has got nsiderable on hand, and we have got considerable on hand.

Q. What is the reason; by reason of the low market? A. Yes, ; another reason is high tolls; we should have sent off more mber this fall if it had not been for high tolls, but it is paying out oney and waiting too long for it.

Q. Suppose the Genesee Valley canal should be abandoned, where ould that lumber, in that territory that you refer to as tributary to e Allegany and Oswayo, find its market? A. I told them I ought there would be a good deal of it go down the river more an there does now to Pittsburg and below; but some would go on e railroad.

Q. Where would the lumber manufactured here by your people nd a market if the canal was discontinued? A. Oh, ours would probably, some of it, down the river, and some of it go on the ilroad, if the canal was discontinued; it is very hard for us to tell; would depend on what the railroad would charge us; this year we uld have got it off pretty cheap if we had agreed to not ship on e canal, but they wanted us to say that we would not send any ing on the canal and they would put it down low.

Q. How would the discontinuance of the canal affect your prop-ty and the property of these other millowners? A. Well, I should y it would affect our timber one-half; I have said a great many mes within the last year that I thought it would reduce the worth the timber-land one-half.

Q. Is there a large acreage of timber lands in this State that is ibutary? A. Not very large; the heaviest part is in Pennsylvania.

Q. Take all your lands in this State tributary to this canal here, nd the streams running into it, is not there pretty near as much as at territory over in Pennsylvania? A. Oh, no; not a quarter, t that; there is a good deal of timber in this State; not a great eal more lumber would have been shipped this fall, if the canal had t been ordered closed so soon; we perhaps should have got off vo or three loads more, but we did not care any thing about it.

Q. How much lumber is there on hand now? A. Weston Brothers ave got about 18,000,000 of lumber, 6,000,000 of shingles, 3,000,000 lath, and about 300,000 pickets, and they make a variety of other tle traps, curtain slats and cheese boxes, etc.

Q. Would this lumber of Weston's be transported over the canal Rochester? A. Not all of it; they want to do it; and they are located there on purpose, and the canal runs right through their yard, and they have piled right on the banks of it, and they have run a canal right up through their yard, so as to pitch into the canal; it is away from the railroad, and away from the river; they have loaded there for Troy and Albany, as high as twenty-seven boats a week at times.

Q. Your firm have got how much lumber on hand? A. Well, not more than 1,500,000.

Q. And Wheeler & Dusenberry? A. They have got on hand about 1,000,000.

Q. These other establishments; have they any on hand to amount to any thing? A. Gordon has got a good deal on hand; probably his manufactured lumber pretty near 1,000,000.

Q. How would the closing of the Genesee Valley canal next year affect your product on hand? A. I think it would make two dollars difference with the canal out of the way; this year the railroads said to us, now if you will agree not to put any thing on the canal, we will take all your lumber and run it through for so much; but if you are going to use the canal, we won't do it; that is the way the railroads feel about it; it would not be less than two dollars after the canal was out of the way; that is enough to kill anybody with the price of lumber, as it, is now; gentlemen, it will use up three-fourths of the lumbermen on these streams.

Examination continued by Commissioner FOSTER:

Q. What is your opinion in regard to the effect of the abandonment of the canal upon the value of timber — you have stated already it was one-half? A. Yes, sir.

Q. Now, upon the lands contiguous to the canal? A. Well, that would be very large; and it is just so with all the real property in this town, all along; the depreciation of real estate, whose interest would be affected by the abandonment of the canal, would be sufficient to pay the expense of running the canal; there is no doubt of it.

W. W. WESTON sworn, testified as follows:

Examined by Commissioner CHAMBERLAIN:

Q. What is the name of your firm? A. Weston Brothers.

Q. What quantity of standing pine timber has your firm got? A. It is estimated at about 100,000,000.

Q. That is up in Pensylvania? A. Yes, sir: pretty much all of it; a little in this State, but very little.

Q. It is all tributary to this Genesee Valley canal? A. Yes, sir; the hemlock, it is a very difficult matter to estimate; we never have went into detail and estimated it, but there is twice that amount that we own; I guess three to one.

Q. What quantity of hemlock, in your opinion, is still standing that is tributary to this Genesee Valley canal in this whole region south of here? A. There is more than 1,000,000,000 tributary to this country; its natural outlet is this way.

By Commissioner WALDO:

Q. Where would it go if the canal was shut up? A. A part of it ould drive on to this Buffalo road and to Buffalo by shutting it up, exorbitant rates, or any thing of that kind, and a part of it would down the river—down to Pittsburg, and a part of it would main in the woods to rot.

By Commissioner CHAMBERLAIN (continuing):

Q. A portion of it, in any event, would go down the river? A. hat has almost ceased; the quantity down the river is not five per nt; they do not like the river.

Q. There are no other products that require transportation over e canal, except the timber and lumber? A. There would be if ere was any dependence to be placed upon it; coal would be ipped over this canal; they have started to put in coal shutes and opped from the very fact that they did not know that they could pend on it.

Q. Where is there any coal? A. The Bunker Hill coal mine mes down this way.

Q. That would have to be brought by this railroad to Olean? A. o, it would come to the head of the canal.

Q. It would have to come by this railroad? A. Perhaps so and rhaps not so; we have a road now within four miles of the head of is canal independent of this one; the Buffalo and McKean road mes to Larabee's, and they actually go and load boats within one ile of where the terminus of that road is, with lumber, and there ould be shutes put in there if the canal could be depended on; all ere is wanted to assure the transportation of coal on this route is e assurance of the permanency of this canal.

Q. What proportion of your pine lumber is transported otherwise an by canal, or would be if the canal was running? A. That is a ry hard matter to tell; you know the fluctuating market works st in one direction and then in another; we have shipped some to hiladelphia; if canal rates are too high, and the Philadelphia arket runs the other way, it would naturally lead off that way me, but if it works the other way, then it would all fall back; here e stand working which ever way we can make the best margins.

Q. You do not ship by the canal for the sake of contributing to e tolls or revenues of the canal at all? A. We have done this— can't say we have not—we have refused offers to put all aboard of il at lower rates than we can ship by canal; but we have done it r the reason that we thought it was an arrangement to kill the nal and then charge us what they pleased.

By Commissioner FOSTER (continuing):

Q. Mr. Weston, in your estimate of 1,000,000,000 of lumber that ould be tributary to this navigation, I guess you are not aware of e circumscribed limit that you have placed to it; you take 12,000 et of hemlock to the acre, and it would only occupy 83,000 acres land; now, I know, of my own knowledge, that there is more than triple that amount? A. I think that the 12,000 feet on the average of the land is too large.

Q. I am speaking of hemlock land as 83,000 acres? A. Well, there is more than that many — there is twice that.

Q. Of course there is? A. I only jumped at that estimate; I knew it was small enough.

Q. There is more than three times that? A. Yes; I have no doubt of it when you get it all.

Q. You take an acre of clear hemlock and it would produce 33,000 to the acre? A. Yes; you will find some of it that would produce fifty; we have cut pine that would cut a hundred.

Q. Your hemlock here is generally small and sound; that is, small comparatively? A. Yes; you take what they call hemlock land here and they do not generally rate it at more than about 10,000; but, of course, those estimates are safe.

Examination continued by Commissioner CHAMBERLAIN:

Q. You are acquainted with the tanneries in this section? A. Somewhat.

Q. How many tanneries are there near here contiguous to this section? A. Two here, one up to Portville, and the large one up at Port Allegany; that last one is at the head of the canal and in Pennsylvania.

Q. Where is their outlet? A. Comes this way.

By Commissioner FOSTER:

Q. Do they ship any hides by water? A. I don't think they do.

By Commissioner CHAMBERLAIN:

Q. What amount of capital is invested in tanneries, throwing out that one at Port Allegany? A. About a million dollars.

Adjourned.

ALBANY, *December* 15, 1876.

Present, all the Commissioners.

C. A. SWEET sworn, testified as follows:

Examined by Commissioner WALDO:

Q. You reside at Syracuse? A. Yes, sir.

Q. What is your occupation? A. Division engineer of the New York State canals.

Q. What canals are within your division? A. A portion of the Erie canal, the Oswego canal, Cayuga and Seneca, Chemung, Chenango, Crooked Lane canal and the Black River canal.

Q. How long have you been connected with the management? A. As division engineer, three years.

Q. At that place? A. Yes, sir.

Q. Have you been over the Chenango canal this year? A. I ive not, over the entire length; only over portions of it.

Q. What portions? A. The portion from Utica up a short dis- nce, and on the summit at Hamilton, and also near Binghamton.

Q. Been to the reservoirs? A. Yes, sir

Q. All of them? A. All of them.

Q. And examined the structures? A. Yes, sir.

Q. In what condition are the reservoirs? A. The reservoirs need pairs to the extent of $20,000 as I estimate it.

Q. Where is that estimate; in your report made this year? A. my report of this year; also last year.

Q. About what is the capacity of those reservoirs for the supply of ater; what is the supply of water from those reservoirs? A. Well, measurements or calculations have ever been made but my proximate estimate is 2,500 cubic feet per minute for one hundred ys; in the dry season.

Q. That is for the reservoirs which feed this way? A. Yes, sir; at can feed the Erie canal.

Q. Are the waters from those reservoirs necessary for the Erie nal? A. Yes, sir; I deem them so.

Q. Indispensable? A. In a great many years; some years they e not; it depends upon the rain fall; in the dry season, and in dry ars, they are indispensable.

Q. Where are those waters now taken into the Erie canal? A. art through the Chenango canal into the Erie at Utica, and a por- on through the Oriskany creek at Oriskany — through the Oriskany eder.

Q. At which point are they more useful to the navigation of the rie? A. Through the Oriskany feeder.

Q. Why? A. Well, that is the summit level, and there is where e want the water the most; there would be no difficulty in supply- g the canal either way from the Rome level, if we had a sufficient iantity of water for that level; the lockages and the leakage rough the structures would supply the levels both ways.

Q. If the Rome level was fully supplied with water there would no necessity of supplying the Frankfort level at Utica by way of e Chenango? A. No, sir; it is fed now principally from the ome level.

Q. The current caused by the introduction of this water into the rie at Oriskany, has what effect? A. It is not detrimental to navi- ition, but beneficial.

Q. Why? A. It flows eastward, and all of our fully laden boats ke the same direction; it is beneficial rather than otherwise; now will state in connection with this question of water supply, that in y report to the State Engineer and Surveyor, I have recommended at the banks of the Erie canal on the Rome level should be raised o feet at the summit of the water supply which is near Rome, or little west of Rome, to produce a surface current both ways from at point — have a surface fall.

By Commissioner **MILLER**:

Q. Pile up the water in the center and throw it both ways? A. Yes, sir; you will then have a greater depth on the summit than either side of it; and grow gradually less by the fall until you reach the locks each way; thus giving not less than seven feet depth of water on the entire level; that will have to be done ultimately.

By Commissioner **WALDO**:

Q. Have the waters from those reservoirs been fed into the Erie this season at Oriskany? A. Well, I am not able to say to what extent but I presume they have been.

By Commissioner **FOSTER**:

Q. You don't know that they have been? A. No; I don't know that they have this year; we have had a very fortunate season this year in our water supply; and I don't think it has been perhaps absolutely necessary to draw from those reservoirs this year, but formerly it has been.

By Commissioner **MILLER**:

Q. They have probably been drawn down this year by the way of the Chenango canal? A. Yes, sir; the Chenango canal has been open its entire length, and of course these reservoirs have had to supply the canal both ways from the summit.

By Mr. **WALDO**:

Q. Can the waters of these reservoirs be fed into the Erie by way of the Oriskany creek without additional expense, and if with additional expense how much? A. Well, with the exception of what damage it might do to the lands bordering on Oriskany creek the expense would be very small; it would not be over $1,500 for the summit level; that would be in changing the plan of the structures at Solsville.

Q. Turning the waters from the prism of the canal at Solsville into the Oriskany creek? A. Yes. sir; a permanent bulk-head ought to be built at the aqueduct, and some important repairs made to the bridges on that summit level.

By Commissioner **MILLER**:

Q. If the Chenango canal is abandoned, give your plan of taking the water from those reservoirs into the Erie canal. A. Well, my plan would be to take the water from the Chenango canal on the summit level, at the Solsville aqueduct, divert the waters there into the Oriskany creek, and take them into the Rome level at Oriskany.

By Commissioner **CHAMBERLAIN**:

Q. Maintain about five miles of that level? A. Yes, sir; about five miles of the summit level of the Chenango canal would have to be maintained.

By Commissioner Waldo (continuing):

. State in connection with that, what necessary structures would : to be put there at the summit and the expense of them. A. uldn't give a close estimate; the lock at the south end is in l condition; it would not need any repairs at all as a bulk-head; at the north end it would want a new bulk-head constructed, some of the bridges on that summit level would have to be ired.

. Would there be dangers of damage to lands upon the Oriskany k except what it would cost to protect the banks? A. I could give an estimate of the necessary outlay to protect the banks of kany creek.

. Would there be danger of overflow and damage to adjoining s? A. It is possible there might be some, but not very nsive.

. The waters would only be taken down in the dry season? A. ıe dry season; that would be when the creek would have its ınum flow.

. When would you take the waters down from those reservoirs ugh the Oriskany creek? A. I would take them down in the ths of June, July and August, and a part of September, which is lly the dryest time; and when we require the water from those rvoirs the most.

. Are the waters of the creek lower then than they are at other s? A. Yes, sir.

. How much would this quantity of water increase the creek at season more than the size of the creek in the early part of the on, in high water? A. The quantity would not be as much, but increase over the minimum flow; I have estimated approxi- ely, 2,500 cubic feet per minute.

. Would the size of the creek then, in the dry season, equal or ed the size of the creek in the spring of the year, or in high rs, without any feeding? A. I should think not, sir; because oubtedly the banks of that stream are overflowed every spring; ain portions of them.

. Have you examined this creek with reference to the question whether an overflow would be caused by taking the waters in way? A. I have not.

. Has any man in the engineer department? A. No, sir; not y knowledge.

he Witness — Would it be appropriate to take this communica- — I mean this communication of mine to the State Engineer in rd to this same question. This is the one I copied for you, at request, and the one sent to the State Engineer; a map accom- ed it. [Map and statement examined by Commissioners and ess.]

Examination continued by Commissioner Chamberlain:

. What, in your judgment, would be the expense of putting the nango in navigable condition for another year? A. To put it in good navigable condition, as it should be, with all the structures and feeders and reservoirs connected, I don't think it would cost less than $600,000, and possibly $800,000; I am not prepared to give a close estimate; that is improving the prism and its banks, and rebuilding a large portion of its structures.

Q. What is the condition of its structures? A. Very bad; also the prism.

Q. What is the lowest estimate that it could be run for another year? A. Well, if they made no more repairs than they made this year, it could be run for $10,000.

By Commissioner WALDO:

Q. You mean provided no extraordinary expenditures occur? A. Yes, sir.

Examination continued by Commissioner FOSTER:

Q. What is the comparative condition of it now and what it was last spring when it was opened, or what would it be for another year? A. I think it is some worse.

Q. You think it is in about the same condition it was when it started last spring? A. I think it is some worse than it was last spring, as the structures have deteriorated by the natural wear and tear, and the prism has been filling up, undoubtedly.

Q. Would it subserve the purposes of navigation just about as well as it did last year? A. Well, I think so, with an outlay for cleaning out the prism of the canal; undoubtedly a large deposit has accumulated since last year; that would increase the expense; repairs to the structures would also be necessary.

Q. What portion do you think these deposits are on? A. The whole length of it, from Utica to Binghamton.

Q. Are there any natural streams flowing into the canal direct? A. They are small ones if there are any.

Q. Are there any at all, to your knowledge? A. I can't locate any particularly; streams coming in that would form bars is what I mean.

Q. Yes? A. Well, outside of that there would be a large amount of deposit accumulated every year; we spend a great deal cleaning out the canal prism every year.

Q. I want to know from what source this debris comes in? A. It is from the surface; comes from the hills and from the surface of the banks of the canal.

Q. Are there any abrupt hills reaching that canal for any distance? A. Well, I could not give the distance; oh, yes, there is considerable.

Q. At what point? A. Well, on the southern end of the canal, from Binghamton up to Oxford, I should think; all along on the southern end of the canal there are very abrupt hills.

Q. Are there any from the summit down toward Utica? A. There are in places, but I don't know to what extent.

Q. What is the capacity of the feeder on the summit? A. From those reservoirs?

Q. Yes? A. There are two feeders on the summit, and one just below the summit level lock.

Q. All discharged from one feeder are they not? A. No, sir.

Q. Where are they discharged into the canal? A. They are discharged on the summit level; there are four reservoirs on the west side of the canal, that come into the Chenango near the lock on the south end of the summit — on the berm side; that is, on the west side of the canal; on the east side there is a feeder coming in from Madison brook reservoir.

Q. Doesn't that go into the other feeder? A. No, sir; the Madison brook comes in on the east side, and there are four reservoirs that flow into a feeder that comes in on the west side; they come in nearly opposite.

Q. What is the capacity of those four reservoirs? A. I can't give you the capacity; I have never ascertained that.

Q. Have you ever seen the estimated quantities of water reserved there? A. I have not.

Q. Then how do you get at the supply of 2,500 feet per minute that you spoke about? A. Well, it is not calculated; it is merely estimated from general knowledge of them.

Q. It is not from any admeasurement? A. No, sir; we have a total area of those five reservoirs of 1,043 acres —

Q. You don't know of any survey at all, you say, in regard to the capacity of those feeders? A. No, sir; I was going to say, in connection with this, to get at a little comparison, that there is 1,043 acres that comprises the six reservoirs that are brought into the summit level of the Chenango canal; to get at the quantity of water I have compared it with the De Ruyter reservoir, covering 626 acres, and which has a capacity of 500,000,000 cubic feet of water.

By Commissioner Waldo:

Q. Do these 1,043 acres include Woodman's pond, which goes the other way? A. No, sir; it don't include Woodman's pond; that flows south, and you can't take it into the summit.

By Commissioner Foster (continuing):

Q. What is your opinion in regard to the capacity of the Oriskany creek for one hundred days in summer? A. Well, I estimate that at 3,500 cubic feet per minute.

Q. Then you think that the waters of that creek are more than the reserve supply for the summit? A. I should deem it that the natural flow from that stream is larger than we can get from the six reservoirs on the summit level.

Q. You have no accurate means of knowing what the water shed is? A. No, sir; I have never measured anything; it is only my opinion; the Oriskany creek is about thirty miles, I think, in length, with all of its little inlets and tributaries coming from both sides of it, and the water shed must be quite large; of course the extent of it I don't know, but it is much larger than the water shed of these reservoirs — a great deal larger.

Q. You spoke about an admeasurement made by some party of that Oriskany feeder? A. Yes, sir.

Q. You don't know, at the time that he made that admeasurement, whether any water was running from the Chenango canal into the Oriskany? A. No, sir, I don't; I wasn't in the country at that time.

Q. You don't know how his estimate was made? A. By gauging the stream.

Q. That is not what I mean; you don't know whether there was any water that came from the reservoirs into the Chenango canal flowing into that creek? A. No, sir; I do not.

Q. You have never been down the flats below Clinton, to see what the damage was by flowage? A. No, sir.

Q. You have no means of estimating that? A. No, sir; only I know this, that two years ago we brought water from the Chenango canal reservoirs down the Oriskany creek, to the full capacity of the feeder at Oriskany, and I never heard of any complaint being made of damages along on the lands.

Q. What was the object of bringing that down that way then? A. Water was scarce on the Rome level; without that feeder we could not have got that quantity of water into the Rome level.

Q. What do you say the capacity of that feeder is? A. It is, in round numbers, 4,000 cubic feet; "the supply of water to be obtained from this feeder will always be largely in excess of the flow of the Oriskany creek;" that is about the only answer that I can give.

Q. Now, by putting the usual supply of 2,500 feet from the feeders into the Oriskany creek in time of flood, wouldn't it be liable to increase the damage on the alluvial lands below? A. Yes, sir; but I would not put it into the creek at that time; yes, sir; in addition to the flow in Oriskany creek in time of floods it would; usually we don't draw from reservoirs to fill the canal if we can avoid it — take it from living streams.

Examination continued by Commissioner Chamberlain:

Q. What is the condition of the Chemung canal and the structures? A. It is in very poor condition; its prism and structures.

Q. What do you estimate the expense of putting that in good navigable condition to be? A. Well, that is including the structures and its prism?

Q. Yes, every thing? A. Well, I would not estimate it less than $400,000 to put the Chemung canal in good navigable condition; I am not prepared to submit an accurate estimate; I give my opinion from general knowledge of the canal.

Q. What would be the minimum expense of running that for another year? A. I think before the close of navigation next year, some of those structures will fall into the canal, and it is pretty hard to estimate it without an examination.

By Commissioner **Foster**:

Q. Which structures do you refer to? A. Locks.

Q. Whereabouts? A. Well, in several places; every winter we ave to put in a brace through the chambers of those locks; that is) prevent the walls from falling in; possibly that canal can be run ext year as cheap as it has been this last year; possibly, but it is ot any ways probable.

By Commissioner **Waldo**:

Q. If for any reason any locks were washed away or needed ebuilding, it could not be done within that estimate? A. It will ost $10,000 to rebuild one of those wooden locks, including founation.

By Commissioner **Chamberlain** (continuing):

Q. What is the condition of the Crooked Lake canal? A. The rooked Lake canal structures are in better condition than the Cheung; there are more permanent structures on it; the locks are in etter condition.

A. What would be the expense of putting that in navigable contion? A. It wouldn't be a great deal; it would be small; I don't now as I could give a close estimate; it has not been opened this ear, and the prism may be a great deal worse than it was two years go when I saw it; but I would refer you to the expenditures on at canal two years ago for the expenditures for next year; perhaps at amount would be sufficient.

By Commissioner **Foster**:

Q. As an expert or proficient engineer you do not base these estiates that you have made upon any calculations? A. No, sir; ased upon no calculations, but merely a matter of opinion from a eneral knowledge of the canals; for instance, on the Chenango anal I assume that 100 wooden locks require rebuilding; it will cost 6,000 each to renew from the foundation, $600,000; 200 wooden ridges at $200 each, $40,000; rewooding twenty-seven aqueducts, 54,000; cleaning out prism, say $56,000; total, $750,000.

Examination continued by Commissioner **Waldo**:

Q. And it includes such new locks as would be necessary to be ut in? A. Yes; to rebuild the old locks and all the old strucares — aqueducts, bridges and waste-weirs, together with cleaning ut the prism.

Q. When that money is expended how long will those structures st, and how many more structures would have to be built the next ear; would it be in good condition for six or eight or ten years? . No; but the estimates that I gave you would put the structures a condition that they would not have to be renewed in eighteen r twenty years; that is, the structures built, but the maintenance of ie structures, general repairs made year after year, and the cleaning f the prism, etc., you could base on former expenditures — expenditures of former years; that would run from $10,000 to $25,000 a year.

Q. After making these expenditures the canal would be in good condition? A. Yes, sir; the canal would be in as good condition as the Erie canal for twenty years, with the ordinary repairs.

Q. Now, as to the Black River canal; is the supply of water from the Black river indispensable as a feeder to the Erie? A. Yes, sir; it is needed on the Rome level; we could not have any navigation without it; nearly one-half the supply of water for the Rome level is taken in at Rome.

Q. And that comes from the Black river and the Mohawk? A. Yes, sir.

Q. How are the structures on the Black River canal? A. Well, compared with the other small lateral canals they are very good.

Q. Have you made a report to the department in reference to the condition of the reservoirs and the Black River canal? A. Yes, sir.

Q. How are those Black River reservoirs? A. It will require $12,000 to put those reservoirs in good repair.

Q. What is the capacity of the Black River feeder? A. Well, I know only from record laid down in the reports that it is 16,000 cubic feet per minute.

Q. Does that all come this way, or does part of it go from the Boonville level the other way? A. Part goes north.

Q. How much comes this way? A. Well, that is a question I can't answer; that would require a little calculation because there is evaporation and filtration of the banks and leakage of the structures; that is an estimate that I have not made.

Q. Well, the probable estimate? A. Well, I wouldn't estimate it at less than a third; I don't mean a third of that total quantity; perhaps it would not require over 2,000 cubic feet per minute that would go north.

Q. What would be the probable expense of protecting the banks of the Oriskany creek, if you can give any? A. It would be approximate; I couldn't give it; I should have to go down through on the line to make any kind of estimate, but the outlay would not be large.

Examination continued by Commissioner FOSTER:

Q. Mr. Sweet, what is the comparative supply of water as between the Mohawk and that which comes through the Lansing kill from the Black river? A. There is a very small quantity comes from the Mohawk.

Q. You don't know the comparative quantity? A. No, sir; but the natural flow of the Mohawk is very small; the minimum flow is very small at the junction with the Lansing kill.

Q. There has been no measurement that you know of? A. No, sir, only from observation.

Q. What do you estimate the amount it will cost to place the Black River canal in the same condition that you have proposed in your estimates for the Chenango canal? A. My approximate estimate is as follows:

Repairing locks	$10,0000
Repairing bridges on canal proper	3,000
Repairing and rebuilding bridges on Black river	4,000
Repairing all other structures on canal	2,000
Repairing reservoir dams	12,000
Removing deposit from prism of canal and feeder	3,000
Dredging channel of Black river	3,000
Protecting interval lands on Lansing kill	3,000
Total	$40,000

Q. What do you estimate the amount it will cost to place the Crooked Lake canal in the same condition that you have proposed in your estimate for the Chenango canal? A. My approximate estimate is as follows:

Rebuilding sixteen locks, rubble masonry, at $10,000	$160,000
Rebuilding ten wooden bridges at $300,	3,000
Repairing all other structures	5,000
Removing deposit from prism	12,000
Total	$180,000

If proper, I will give the summary of my approximate estimates to place these canals in good navigable condition:

Chenangc canal	$750,000
Chemung canal	400,000
Crooked Lake canal	180,000
Black River canal	40,000
Total	$1,370,000

EXHIBITS.

CHENANGO CANAL EXHIBIT, No. 1.

OFFICE OF THE UTICA STEAM COTTON MILLS,
UTICA, N. Y., *September 26th*, 1876.

GENTLEMEN.—The Utica Steam Cotton Mills have two large cotton factories located on the east bank of the Chenango canal, in this city, about 1,000 feet from its junction with the Erie canal, with a capital invested, and in use, of over $1,000,000, giving employment and support to about 2,500 persons. One of the factories was built in 1849, and the other in 1870. Under the approval of the Canal Board of 1849, this company, at a large expense, built docks and a store-house on the Chenango canal, for the purpose of receiving their cotton, coal and other materials used in manufacturing, and for facilitating the shipment of their manufactured goods to market. By further permission of the Canal Board referred to, and Commissioners in charge since, this company have used, and are still using, water from the Chenango canal, for the purpose of condensing steam, both during the season of navigation and winter. In so using the water, no waste is caused, as it is pumped from the canal, brought in contact with steam in the condensers, and from thence conveyed back to the same level of the canal from which it was taken..

The entire abandonment of the Chenango canal would cause this company great damage, as without water for condensing steam, their factories cannot be operated. There are other large interests, both corporate and private in this city, that would be seriously affected by an abandonment; and it is believed by our medical men, and citizens generally, that the public health of the city would be greatly impaired thereby. Therefor, for reasons herein stated, and many others that might be named, this company most earnestly requests that — if it should be deemed advisable to abandon the Chenango canal for navigation purposes — the portion of it connecting the Madison county reservoirs with the Erie canal be continued and maintained for a feeder to the Erie canal. It can be done at a trifling expense to the State, and avoid a liability for large damages to private property, on the line of the Oriskany creek, that might arise against the State for overflow of water in times of freshets, in case the whole supply from the reservoirs was conveyed through that creek, as it would necessarily have to be so conveyed, unless that portion of the Chenango canal referred to was retained as a feeder.

It is said by those interested in navigating the Erie canal, that there is a serious objection to having the entire supply of water from the reservoirs conveyed through the Oriskany creek feeder, from the fact that it would cause so strong a current in the Erie as to make it very difficult for boats to enter the Erie lock, in the western part of this city.

Very respectfully yours.
E. CHAMBERLAIN, *Treasurer.*

To Messrs. Miller, Foster, Chamberlain and Waldo,
Commissioners.

CHENANGO CANAL EXHIBIT, No. 2.

Sherburne, *September* 28, 1876.

The following is the amount of freight, in tons, shipped via the Chenango canal during the years 1874 and 1875, by S. W. Lobdell & Co., viz.:

For 1874.

	Tons.
From Fayetteville:	
Plaster stone	700
From Oswego and other points:	
Feed, etc	750
Two thousand barrels of flour	200
Five hundred barrels water lime	75
Three thousand bushels corn	84
Five hundred bushels oats	8
Fifteen hundred barrels salt	225
Number tons to New York — butter, cheese, eggs, beans and cider	400
Total	2,442

For 1875.

Plaster stone and water lime	975
Feed	1,000
Two thousand barrels flour	200
Five thousand bushels corn	90
Two thousand bushels oats	32
Two thousand five hundred barrels salt	337
Merchandise from New York	200
Total	2,834
Butter, cheese, eggs, cider and beans to New York	500

The cost of store-house, feed and plaster mills	$9,479 61
Two canal boats and fixtures	3,400 00
Total	$12,879 61

In case the canal is abandoned the above buildings would not be worth one-third of the cost. The plaster-mill would be entirely worthless, as stone could not be shipped by railroad; also the present engine we have, costing $6,000, would be of no use in case the plaster-mill is taken away, as a much smaller engine would do our work. We have shipped lumber from Owego to Sherburne to the amount of 500,000 each of the above years for W. F. Blanchard. In the year 1876 we are shipping about the same amount of feed, and will, if the canal runs through the season, ship to New York from 400 to 600 tons of butter, cheese, eggs, cider and beans. We have received eight boat loads of coal from Binghamton, and we are to have four boat loads more.

S. W. LOBDELL & Co.

Sworn and subscribed
Sept. 19, 1876.

CHENANGO CANAL EXHIBIT, No. 3.

Statistics taken from the books of the collector on the Chenango canal, at Oxford, September 30, 1876.

Number of clearances this season	134
Number of clearances to Utica	20
Amount of coal cleared	2,806 tons.
Amount of stone and lime cleared	830½ tons.
Amount of salt cleared	147.12 tons.
Amount of gypsum cleared	142.15 tons.
Amount of lumber cleared	202,551 feet.

The above are the principal articles transported; there are sundry other articles in small quantities.

Total tolls received thus far........................ $1,333 10

CHAS. W. BROWN,
Collector, Oxford.

CHENANGO CANAL EXHIBIT, No. 4.

By J. J. ILLINGWORTH:

Resolved, That a committee of three, consisting of his honor the mayor, and two aldermen, be appointed to meet the commission appointed by the Legislature in reference to proposed abandonment of the Chenango canal, at Bagg's Hotel, Wednesday, the twenty-seventh of September, to represent the city in the matter of keeping open said Chenango canal as a feeder for the Erie canal and as a protection against fire in this city, and to represent to Commissioners the loss that would accrue to this city by the closing of the said Chenango canal. Adopted. The mayor named as such committee, Aldermen Illingworth and Williams.

To the Commissioners having in charge the matter of discontinuing certain canals, acting pursuant to chapter 382, *Laws* 1876:

In presenting to your honorable commission the remonstrance against the abandonment of the Chenango canal, the committee appointed by the common council of the city of Utica, to convey the earnest protest of the citizens against the measures which, in its mildest aspect, can be viewed only with alarm by the large business, commercial and manufacturing interests immediately connected *with* and many of which were there located *only* because of the canal; while at the same time all the business interests of the city are to be more or less affected and damaged by its entire abandonment. This committee desire to call *special* attention only to some of the most serious objections, among the many that can be urged against the *entire* abandonment by the State of the Chenango canal.

While the city of Utica cannot, of course, claim that this canal should be maintained throughout its entire length at a large expense to the State, for the special benefit of this city, they feel assured that (all things considered), if the canal is to be abandoned as such, that the large interests at stake between the feeder at Oriskany Falls and the Erie canal, will *surely* warrant the maintenance of all that portion of it northerly from Oriskany Falls as a feeder to the Erie canal, and so save, in a great measure, the destruction or serious injury to large interests and valuable properties within the limits of the city of Utica.

But even more important, and vastly greater than any moneyed or property interests possibly can be, is that of the health of our citizens, which is liable to be placed in jeopardy; as the canal within the city limits runs nearly parallel with, and has largely absorbed a natural water course, and the experience of the past summer, while the water in the canal was nearly or quite gone, has fully demonstrated the absolute necessity of continuing the canal as a water-course of some kind, or greatly endangering the health of all the western portion of the city, including the State Lunatic Asylum which, to a considerable extent, is dependent upon this source for water supply.

It is not within the province of this committee to make recommendations, but simply to present for your consideration the facts of the case. We may, however, be allowed to say, that if other and weightier reasons exist, and it shall be deemed best that the State entirely abandon this canal, the city of Utica would most earnestly protest against any portion of the canal laying within the city limits being ceded to any person, firm or corporation, but claim and pray that all that portion of the Chenango canal lying northerly of the southerly boundary of the city of Utica may be given by the State to the city of Utica, for municipal purposes (subject to such of the wants or uses of the State Lunatic Asylum, or other State purposes, as shall at any time be required), with the right to permit the property to be used by private firms or corporations to such an extent, and for such purposes under municipal direction as may be compatible with public interests and the city at large.

If this portion of the canal becomes private property it will foreve prevent its use for city purposes; but if owned by the city it coul easily be made available for all present uses to adjacent propertie and this would seem to be the only possible way to protect, or caus the least amount of damage thereto; and it will afford to the city a available outlet for a large amount of drainage which comes from th southwestern part of the city of which the canal has heretofore bee the natural outlet, and at the same time enable the proper connections to be made with the pipes to be laid by the State under th Erie canal near its junction with the Chenango, during the comin winter, solely for better drainage.

The stoppage of this natural flow of water through this portion o the canal, draining as it does a considerable area of land south of us would be attended with very serious results to public health, an deprive the property owners in West Utica of their great safeguar from wide spread conflagrations by cutting off this supply of wate for extinguishment of fires. Briefly, then, the interests of this city and the earnest desire of our citizens is:

First. That the Chenango canal remain as it is.

Second. That if this cannot be done, then let that portion, northerly from Oriskany Falls to the Erie canal be used for a water-cours feeder to the Erie, and for present uses remain substantially as i now is.

Third. That if the State decide to abandon this canal entirely then in that case to give all that portion of it within the city limit to the city of Utica for municipal purposes and the benefit of th properties in interest.

Utica, *October* 2, 1876.

CHARLES E. BARNARD, *Mayor.*
R. S. WILLIAMS.
JOSEPH J. ILLINGWORTH.

CHENANGO CANAL EXHIBIT, NO. 5.

To Messrs. Waldo, Miller and others, *Commissioners:*

I was Canal Commissioner in charge of the middle division whe the Oriskany feeder was constructed. It was completed and brough into use in October, 1871. By careful measurements, made at period of unusual drouth, as in July, 1870, and repeated in August, 1871, i was found that the average flow of the stream is about 5,000 cubi feet per minute. Not less than this quantity has been contributed t the Rome level during the season of navigation, since this feeder ha been in use. This is but the natural flow of the stream, though a times it is considerably increased by leakage from the Chenang canal, which is located in the valley of the Oriskany, from Madiso pond north to Clinton. In his annual report Commissioner Chapma gives a history of the difficulties which had hitherto been encountered in getting a sufficient supply of water in dry seasons for the Rome evel, but he makes no allusion to the use of this feeder to bring the aters of the Chenango reservoirs to the Erie canal, except by remarkng, that the State now "has the power without further expense to ncrease the capacity of this feeder." But the State will hardly ave occasion to make such use of this feeder, unless the heavy tonage of 1871, and a great drouth should come together, or some great reak in the Black river or other Erie canal reservoir should occur n a dry season. The possibility of such accidents was one of the nducements, which, in the estimation of the Commissioners justified he expenditure incurred in appropriating the stream and constructng this feeder, but it was then supposed it never would be used xcept to convey the waters of Oriskany creek to the Erie canal, nless some such emergency arose as I have suggested above, and r the following, among other reasons:

1st. This stream, for the greater portion of its course, receives the rainage of high and abrupt hills, thus rendering it peculiarly liable o heavy freshets at all seasons. If these freshets came when the anks of the creek were already filled with the waters of the reseroirs, disastrous overflows would be sure to follow, causing great njury to the owners of adjacent property, for which the State would e legally and justly liable.

2d. If the Chenango canal is not used, as it always has been, to eed the Frankfort level, it must be drawn through the Utica lock, nd this is subject to so many objections, that it would be found, think, quite impracticable. It would necessarily create a current hich would be very detrimental to navigation. It would accumu- te bars in the prism of the canal, and would often draw down the evel immediately above the locks so far as to ground heavily laden oats. Of course these could be floated by shutting the valves, and opping the feed, but this would again be troublesome to the boats avigating the Frankfort level immediately below.

It has been found by experience that, in addition to the lockages rough the Utica lock, a regular and sufficient feed for the Frankrt level can be had from the Chenango canal, which pours its aters into a basin of the Erie, not far below the Utica lock on the tter.

In former years it frequently happened that the sources of supply n the western portions of the Rome level did not hold out through he season, and, in such cases, resort was had to the Black river reams and reservoirs. If this should occur again, nearly all the eed at Rome could be forced to the west, and so much water as ight be necessary taken from the Chenango reservoirs, through the riskany feeder; but I apprehend that any arrangement for dispensng with the Chenango canal as a feeder, would be found disadantageous to the Erie canal, and would not be permanent.

WM. W. WRIGHT.

CHENANGO CANAL EXHIBIT, No. 6.

FRANKLIN IRON WORKS, ONEIDA CO., N. Y.,
October 3, 1876.

HON. A. B. WALDO, *Chairman Lateral Canal Commission:*

SIR. —I beg to bring to the notice of your commission, a few facts in relation to the Chenango canal, which may aid in your decision, as to the benefits arising to the State and to the people living along its line, by retaining said canal for the purposes of navigation.

1st. The Franklin Iron Works is a corporation engaged in the manufacture of pig iron, and is located on the line of the Chenango canal—about ten miles south of Utica. The company was organized in 1852, and their works were built on their present site, to avail themselves of the advantages and facilities offered for the transportation of their product over the Chenango canal. In 1864, the present owners were induced to purchase the property, in great measure, for the same reason, and in 1869 enlarged their works to four times their original capacity, with this cheap transportation over the Chenango canal in view. Not one dollar would have been expended in improving and enlarging the works had the company any idea that the Chenango would be abandoned.

2d. The company have invested in real estate, consisting of the furnace plant, ore beds, ore rights, lime quarries, etc., $359,665. The amount of capital used in carrying on the business varies with the price of iron, ranging from $175,000 to $250,000.

The ore beds of the company located near Clinton, are of great value, and are worked extensively by them to furnish ore for their furnaces, employing in mining, digging and drawing to their works, 225 men and sixty-five teams.

The company also employ about their works in the manufacture of the iron, handling of the ores, shipping, etc., ninety-five men when in operation.

Their ores and other property are of great value, with the present facilities for transportation; but cut off the demand for their ores, wholly or in part, by the stoppage of the furnaces, as would probably be the case, if navigation of the Chenango canal is abandoned, and their property would be of little value. Thus entailing great loss upon this company, and great damage and distress upon the section of the State where there has been so much money expended annually in operating their works.

3d. In addition to the ore beds owned by this company, there are extensive ore beds in the vicinity of Clinton owned and worked by other parties, who have, in years past, mined and shipped over the Chenango canal thousands of tons of ore annually to points on the Erie canal and Hudson river. If navigation is continued these ores will be shipped in large quantities as heretofore, but close the Chenango and you destroy the value of the ore beds, thus causing great damage to the owners.

4th. Coal from Binghamton, lime, lime stone and lumber from Oriskany Falls; apples, potatoes and other products pass in large quantities over the Chenango canal.

5th. I desire to draw your attention to the fact that the Chenango canal has never received due credit for the business it has supplied to the Erie. While the Chenango shows but a small amount of tolls received, the receipts upon the Erie are largely increased by freight from the Chenango. Abandon the Chenango, and every thing now shipped over it must be put upon the railroad at points of shipment, and once on the cars will, in all probability, go to its destination by rail. Thus the State will lose the toll and the shipper will be made to pay a higher rate of freight.

6th. For the further information of the commission, I herewith annex a statement showing the shipments and receipts of this company over the Chenango during the years 1873, 1874, 1875 and 1876. The general depression in business throughout the country has diminished the volume of business done by this company for the past three years, as well as others along the line of this canal:

SHIPMENTS IN 1873.

	Net tons.
Rochester	168
Utica	368
Cohoes	560
Whitesboro	72
Rome	22
Poughkeepsie	84
Total	1,274
Coal dust to Fayetteville	362
Total in 1873	1,636

SHIPMENTS IN 1874.

Burlington	722
Fort Plain	33
Little Falls	235
Rochester	341
Albany	700
Utica	470
Rome	67
Seneca Falls	80
Cohoes	1,104
Troy	1,209
Whitesboro	112
Syracuse	739
Amsterdam	35
Coal dust to Fayetteville	455
Total	6,302
Ore received from Port Henry in 1874	7,543
Total shipments and receipts in 1874	13,845

SHIPMENTS IN 1875.

	Net tons.
Albany	1,954
Rome	155
Rochester	448
Amsterdam	22
Syracuse	868
Cohoes	1,680
Little Falls	408
Burlington	1,355
Seneca Falls	940
Troy	1,357
Utica	240
Albany	263
Fayetteville	606
	10,296
Ore received from Port Henry	6,021
Total shipments and receipts, 1875, net tons	16,317

SHIPMENTS IN 1876 TO OCTOBER 3.

Troy and Cohoes		1,623
Little Falls		257
Burlington		1,844
Buffalo		672
Seneca Falls		336
Albany		588
Utica		28
Rochester		134
Syracuse		291
Total shipments iron to date, in 1876		5,773
Coal dust to Fayetteville	314	
Coal dust to Oriskany Falls	120	
		434
Total		6,207

The falling off in business in 1876 was caused by general depression, and in the fact that we were out of blast.

RECAPITULATION.

	Net tons.
Shipments in 1873	1,636
Shipments and receipts, 1874	13,845
Shipments and receipts, 1875	16,317
Shipments to October 3, 1876	6,207
Total	38,005

All of which is respectfully submitted.

C. H. SMYTH, *Superintendent.*

CHENANGO CANAL EXHIBIT, No. 7.

CLINTON, N. Y., *October* 2, 1876.

oal receipts through Chenango canal from Binghamton, by J. L. k, Clinton, N. Y.:

3	34 cargoes.
4	32 cargoes.
5	29 cargoes.
6	2 cargoes.

ipments made to *tide-water* from Clinton, by J. L. Cook:

3	8 cargoes produce.
4	6 cargoes produce.
5	5 cargoes produce.
3, received from New York	1 cargo of coal.

All of which is respectfully submitted.

J. L. COOK.

CHENANGO CANAL EXHIBIT, No. 8.

ORISKANY FALLS.

873, about	2,000 tons stone, south.
874, about	1,500 tons stone, south.
875, about	1,000 tons stone, south.
876, about	375 tons stone, south.

hese stone were shipped to Norwich, Greene, Oxford, Bington, Sherburne, etc.

SIDNEY PUTNAM.

eceipts, via canal, of Douglas & Hamlin, Oriskany Falls, for the on of 1875:

	Bbls.	Lbs.
ır	152	30,400
	160	48,000
sphate	15	4,500
er lime	95	28,500
pty casks	178	17,800
l		1,200,000
eral merchandise		14,577
Total		1,343,777
pped		18,040

CHENANGO CANAL EXHIBIT, No. 9.

SUGGESTIONS SUBMITTED BY HON. JOHN F. SEYMOUR.

In the annual report of our State Engineer, transmitted to the Legislature February 24, 1875, it is stated that the Chenango canal furnishes to the Erie 911 cubic feet of water per minute.

The withdrawal of that quantity from the Erie canal, and from the Hudson river in a dry season, would seriously affect the navigation of both, and to that extent would affect the commerce of the city of New York.

It does not follow that the abandonment of the Chenango would be a withdrawal of this water from the Erie canal and Hudson river, especially if the reservoirs on the Chenango be kept up, and their waters turned into the Oriskany creek feeder.

Of the advantages or disadvantages of undertaking to conduct this water through the Oriskany, I am not advised, but the commercial interests of the State and city of New York, and of States west and east of us, demand that there shall be no diminution of the water supply of the Erie canal and Hudson river. And the effects of the destruction of our forests upon the amount of rain, and upon our streams are so great, that the Erie canal and the Hudson river will require all the water which can be made available, and it is, therefore a matter of general public interest that nothing be done to diminish the amount of water brought to the Erie canal through the Chenango or any other feeder.

The report to which I have already referred mentions six reservoirs on the Chenango canal, as among the sources of supply of water on the middle division of the Erie canal. Five of these reservoirs, I understand, feed north to the Erie through the Chenango canal, and their combined area amount to upwards of 870 acres. The great importance of these reservoirs is in that they furnish a supply of water when our streams and canals are low, and at a time when one drop of water is worth one hundred times more than it would be in ordinary seasons of the year. The system of reservoirs adapted to furnish water to our canals through the Chenango and other feeders ought not to be interfered with or diminished, because it is of vital importance to canals, which are to be valued not only for their own carrying capacity, but for their power to compel railroad companies to transport the products of our own and other States at cheap rates.

CHENANGO CANAL EXHIBIT, No. 10.

New York State Lunatic Asylum,
Utica, *November* 22, 1876.

ate Commission on Lateral Canals:

Gentlemen. — As the State has an important interest in the Che- ngo canal, in connection with the water supply of this asylum, it the duty of the managers to call your attention to the condition this property of the State, and to the question how the interests of e State will be affected by any action looking to the abandonment the Chenango canal.

The State owns a piece of ground adjoining the Chenango canal, lock No. 10, from which the supply of water is obtained for the se of the asylum. The pipe conveying this water to the asylum ns within the canal line, on the State property, from this point to e lock No. 5, where it goes under the canal.

The expenditures of the State in the purchase of the land and rings and the iron pipe for conveying the water to the asylum, d laying the same, has cost the sum of $20,897.31.

Chapter 446, title 3, sections 35 and 36, give the managers thority to use the water of the canal, to a certain extent therein t forth, and a certain amount of authority over that part of the henango canal, to insure the supply of water to the asylum. The anagers feel it their duty, as guardians of this property of the ate, and the welfare of those placed under their care, to ask your reful attention to the subject herein set forth.

Yours very respectfully.
SAMUEL CAMPBELL,
President Board of Managers.
FRANCIS KERNAN.

The following are the sections of chapter 446 above referred to:

§ 35. The managers of the said asylum are authorized, under the rection, and subject at all times to the control of the acting canal mmissioner having charge of the Chenango canal, to use the sur- lus water discharged around or through the fifth lock, on said nal, to operate a pump to supply said asylum with water from id canal, or from Nail creek, in case the said commissioner shall e of opinion that the same can be done without detriment to the avigation of said canal.

§ 36. The managers of the said asylum shall have control of the ater in the levels of the Chenango canal, from the fifth to the tenth cks of said canal, both inclusive, and of the water discharged from id levels and locks, for the purpose of supplying said asylum with ater and ice; and it shall be the duty of all officers having charge f said canal, and of the persons employed by them, to do all things ecessary, and which may be required by said managers, for the pply of said asylum with water and ice as aforesaid; provided always that the said managers in all their acts in reference to sai levels and locks, and water, shall be at all times subject to th direction and control of the acting commissioner having charge o said canal; and that nothing shall be done or permitted by sai managers which shall obstruct or interfere with the navigation o said canal, or which shall not first receive the sanction of the com missioner in charge; and all persons, except such as are in th employ of the State, and such as are engaged in the navigation o the canals, are hereby prohibited from preventing, obstructing, or i any way interfering with the said levels, locks and water of th canal, so as to prevent the free and full use thereof by the sai asylum, and from doing any thing to injure the quality of said wate for said use; and any person who shall in any way willfully violat this prohibition shall be guilty of a misdemeanor.

CHENANGO CANAL EXHIBIT, No. 11.

STATEMENT FROM COLLECTOR AT UTICA.

Memorandum tolls received at Utica, on Chenango canal, fro June fifteen to September twenty-six:

June	$234 6
July	383 6
August	288 1
September	191 9
	$1,098 3

Tolls from Oxford to Utica:

June	$213 6
July	48 2
August	25 3
September	30 5
	$317 7

Receipts in 1875 at Utica:

May	$65 1
June	229 4
July	173 6
August	126 5
September	148 6
October	198 5
November	144 2
	$1,086 2

BLACK RIVER CANAL EXHIBIT, No. 1.

The Black River Canal.

port of the committee from Oneida, Lewis and Jefferson counties — information for our Legislators to ponder.

'he Herald's Albany correspondent has obtained the report of the imittee of citizens appointed at the recent meeting of the people Dneida, Lewis and Jefferson counties, held in Boonville and Lowe, to confer with Canal Commissioner Thayer on the important erests dependent upon the Black River canal. This report braces a vast amount of information that is not known to a jority of persons of the State, and it should be read by all in er that the great value of the canal may be properly understood. report is made by request of Commissioner Thayer, acting ler the direction of the Legislature, and reads as follows:

Hon. Adin Thayer, *Canal Commissioner, New York State:*

'he subscribers, a committee appointed at a meeting held in the age of Boonville, N. Y., in pursuance of a request of yoursef to uben E. Nichols, a collector of this port on the Black River canal l feeder, for statistical information as to a sale or abandonment of Black River canal, do respectfully report, with the concurrence Mr. Nichols, the following statements and facts:

'irst. Our sources of information. We have taken special care to proximate the real facts in all our statements, and confidently rely on them to be more than substantiated by any careful and unbiased nmission which may hereafter be appointed. Our figures in refere to the cost of this canal and the feeder, river improvements and ervoirs, may be found on file in your office. The estimated cost the future, if used as a feeder, are derived only from C. S. Phelps, w engineer for the State. The amount of capital employed in lls and manufactories dependent on the canal for life, are got from New York census of 1865, and from statements of the residents the several towns through which the canal passes. The amount of iber lands, farming lands, village property and canal property, ose value greatly depends upon this canal, we get by actual meaements and examination of property and owners.

Second. We assume, in the first place, that this question of the e or abandonment of this canal could only have arisen from an accountable want of foresight on the part of our (so-called) statesn, both here at home and in other sections of the State, who should ve been so jealous of our promises as a people that such a proposin could not have arisen until it was ascertained whether the citins of the Black river valley were willing to release the State from solemn obligation to keep and maintain this canal; and keeping s idea in view, we will show the gross ignorance of those who yet pose us.

The Black River canal and feeder were originally directed to be built to utilize the magnificent idea of DeWitt Clinton of an Eri canal to facilitate the means of communication, as well as to strengthe the bonds of society, to bring distant parts of the State into nea communication with wealthy centers, to create a home market for ou native products, and to let the strong centers mutually assist th weak and struggling pioneer settlements. The paramount idea those who followed out Governor Clinton's idea was to make it feeder of the Erie; and ever since the resumption of work on it th idea has been steadily followed. Yet, in their zeal for the Erie, the have made this canal the scape-goat for every illegitimate expens properly belonging to that canal; as see report of the Canal Commissioner for 1874, at page 61, wherein he says the total expense of thes reservoirs should be charged to the Erie canal. (See also reports 1871 and 1873.)

We are charged $3,286,000 as original cost of construction. Th is erroneous, for the Erie must have this water from the Black rive and its tributaries, and cannot get it any other way than by an excavated channel from Boonville to Rome; and all the additional expens on section one of this canal would be in the locks, say $6,000 eac There are seventy locks, which would make section one properl chargeable with only $420,000. Add to this the cost of the can from Boonville to Lyons' Falls, and river improvements amountin say, to $, making the total cost of that part properly chargeable to the canal, $.

The cost of keeping reservoirs in repair, the feeder proper, and summit level at Boonville to lock seventy, averages	$11,296 6
and is properly chargeable to Erie, and to be credited to section two.	
The expense of keeping section one in repair, as it is used as a feeder to the Erie every year lately, to the exclusion in part of the navigation of it, and should be charged to the former, was........................	20,000 0
Total average yearly expense to be charged to the Erie and credited to the Black river..................	$31,296 6
Give the Black River canal credit for tolls, say for 1874.	30,298 0
Makes a yearly total in favor of the Black River canal, of..	$61,594 6
Out of this should be taken the cost of repairs of the river and sections one and two, less $11,296.68, a yearly average of..................................	18,994 2
Estimated yearly, but in our favor with all credits....	$43,500 4
But take the tolls alone as yearly revenue, less cost of river and sections two and three, then the canal is entitled to a yearly credit of........................	$12,193 7

So that, instead of being a source of loss to the State our canal is a source of revenue, and our water tolls annually pay interest on the cost of original construction, properly chargeable to us, and also enable the State to navigate the Erie and there make another profit.

It seems that it was not enough to charge this canal with the expense of getting the Black river into the Erie, but the canal was charged with the whole cost of the reservoirs.

Amounting to, say	$500,000 00
The canal is also charged with the damages for the breaking away of North Lake reservoir in 1866, the awards and interest on which amount to an aggregate of	591,000 00
Yes, even the item of attorney's fees for defending these claims was charged to us, and it was	11,000 00

(See Canal Commissioners' reports for 1873, pages 60, 61.)

Third. Your committee to whom your letter asking for statistical information in reference to the sale or abandonment of the Black River canal, regret that they are unable to make a full report upon all the suggestions of your letter, but believing the question "will it pay?" is paramount, we respectfully call your attention to the following facts, to wit;

The cost of maintaining our canal feeder, reservoir and river for the fiscal year ending February 1, 1875, was, say		$45,000 00
Now, credit the canal with the expense of reservoirs, feeder and summit level to lock seventy, section one	$11,296 00	
Also credit it with tolls for 1874	30,298 00	
Total credits		42,594 00
Making this canal indebted to the State apparently, say,		$2,406 00

Now, it may be said that we are only entitled to a credit of $10,000 a year, but this is not true, for in our collector's making his deposits in our banks he has credited to Erie the tolls which she earns in floating the freight that comes from our canal (but which Erie would not earn but for this canal), and credits to the Black River canal only that which she earns in floating this freight to Rome. This amounts to $20,000 per year. Now, abandon us, and Erie's revenues are so much diminished. But assume that you abandon this canal, yet you must have this Black river water to navigate the Erie. To get it there, there is but one other way, and that is to turn it loose at lock number seventy to Lansing kill, and the Mohawk, and thus into the Erie. Now, adopting this plan, your water flows through twelve miles of flat land, whose elements are black loam of a washing nature, which will wash away from one to two acres of every farm adjoining the channel, besides increasing an overflow which now amounts to more than 800 acres per year. Damages would be a constant and increasing item of each year's appropriation, and one that would from the start more than outbalance the small balance that now stands against us on the books of the State.

These are not inflated facts, but all of them are easy to be read, even by the wayfaring man, and the answer comes to the question, will it pay, clearly in the negative.

Again, we are not credited with tolls upon freight coming from points on the Erie, and which are to be passed over our canal, while Erie revenues are increased, but could not have been earned but for our canal.

Fourth. Can the water of the Black river be carried to the Erie any cheaper than by its present watering? We answer, no. If taken out of its present channel and left to run free until it intersects the Mohawk, it would cost a larger sum to pay damages by reason of washing banks, overflow and soakage than it now costs for the whole thirty-four miles. Its evaporation would be at least one-half more, or 208 cubic feet per minute — a loss that would render it impossible to fill the Rome level on the Erie.

Fifth. Can the Erie canal be navigated without the aid of this water? (See Canal Commissioner's report for 1873, page 61; and 1874, page 59.) The Commissioner well says that "it would be impossible to keep section five of the Erie navigable but for the water from the Black river." Yet the selfish and blind zeal of members of the New York and Buffalo Produce Exchange talk flippantly in the New York Times of February twenty-ninth last, about selling this canal. But where ignorance is bliss, 'tis folly to be wise. The number of cubic feet of water passing through lock number seventy, per minute, is 12,000; the amount reaching Rome through both canal and Mohawk, is 11,294; add loss by evaporation, 154, and the amount received at Rome shows that the Lansing kill stream and the Mohawk only render up what they have taken from our canal as it passed out at lock number seventy.

And we claim that the Hudson river commerce is materially assisted by this water of the Black river passing into it at Troy. True, it may not be a quarter of an inch on the whole surface (it being estimated at that amount), yet when New York commences to be alarmed about its "noble Hudson" failing to bear on its bosom its usual commerce, by reason of failure in dry seasons of its native sources of supply, we have a right to ask some consideration at the hands of its representatives in pleading for our rights as guaranteed by the State in taking our lands and water for itself. This water cannot be obtained in any other way than by way of this canal.

Sixth. This canal should not be abandoned nor sold because it would destroy and depreciate more property than the State at large can afford to lose. Our canal, last year, including reservoirs, feeder, river improvement and all,

Cost, in round numbers	$46,000 00
Deduct expenses of reservoir and feeder to lock No. 70	11,000 00
Actual expenses	$35,000 00
Our tolls amounted to	30,000 00
Balance for State to pay in taxes	$5,000 00

Now, if the canal is sold or abandoned and our property depreciated $1,000,000, and the State tax is as usual, say seven-tenths of a mill, it would be $7,000; or the people at large would be actually the losers in destroying us of $2,000. But we can show that in farming land depreciation alone, and this for only two miles each side of the canal, river and feeder, it would largely exceed this sum.

The whole number of acres affected by the above estimate is 500,000. This at an average of five dollars an acre, amounts to	$2,750,000 00
There are twelve villages on the line of this canal and their estimated amount of real property is $3,135,000; estimated depreciation of ten per cent	313,000 00
There are 200 saw-mills on canal and river, with a capital invested of $371,000; estimated depreciation of seventy-five per cent	277,250 00
There are fifteen tanneries on canal and river, with a capital of $750,000; estimated depreciation of ten per cent	75,000 00
There are other manufactories, grist-mills, etc., on the line of this canal, in number, forty, with a capital of $583,000; estimated depreciation of ten per cent	58,300 00
There are warehouses, wharves, dry docks, lumber and coal yards, whose estimated value now is $200,000, whose value would depreciate at least ninety per cent	180,000 00
There are 110 canal boats owned on this canal whose worth would depreciate	30,000 00

There are Beaver and Moose rivers, Independence, Otter and Woodhull creeks, and their tributaries, that drain an immense timber region, whose only outlet is this canal, at Black river, and all are of sufficient capacity to float timber from a million acres of hemlock, pine and hard woods, whose production would amount to a million cords of hemlock bark worth one dollar per cord standing. Without the canal this would be a total loss of $1,000,000. There are 1,000,000,000 feet of spruce and 1,000,000,000 feet of hemlock. These timber lands are substantially valueless without the canal, and if the canal is abandoned there would be an actual loss to the people interested in them of $2,000,000.

The number of feet of lumber, piles, spars and timber to be moved in the future, estimated at 4,000,000,000 feet, bringing in tolls, and lost if the canal is sold; add profits on manufacture at least 150 per cent, and it is $1,000,000. The other freights and loss to the canal are estimated at $100,000.

We beg to call your attention to the report of Hon. R. B. Miller, of Utica, to show that the mineral wealth of these lands is unlimited and they have no other outlet but this canal. This cannot be estimated, although with a system of slack-water navigation on rivers tributary to the Black river it would be vast. (See also Verplanck Colvin's report.)

Your committee respectfully call your attention to another important reason why this canal should not be sold or abandoned. It is a well ascertained fact that the Champlain region is nearly exhausted of its timber, piles and spars, and soon the wasting of New York docks and her ship yards will be seeking other sources of supply. Now, there is an average of ten piles and one spar to an acre upon all of these 1,803,000 acres referred to. Our spars are the best in the world. Suppose your legislature directs the sale of this canal; it would not be two years before the representatives from the "imperial city" would be demanding, with their usual zeal, a reopening of this canal.

Seventh. Again, we ask protection from the railroads. They charge us from one-half to three-quarters more for freight in the winter than in the summer, and until our legislature shall pass some law making them recognize that they are servants of the people, and owe their franchise to them, we pray, as a matter of safety, that this safeguard remain to us. The railroad interest would throw up their caps if this guilty scheme to sell this canal should pass; as from that moment the sublime conception of Governor Clinton — the Erie canal — must cease to be of any use whatever.

Eighth. We beg leave to call attention to the canal commissioner's report for 1871, at the page wherein he well says, that the State exercised imperial power in taking the lands of her people to build these canals, but she did it for the full development of all of their vast resources, and it was done to promote the prosperity of her people. We believe this to be so, and do not think it possible that she will consent to cut us off from our full development — not now, just when a national stagnation in business makes us almost supine, and forever prevent us from recuperating ourselves from our vast resources, but whose use to us depends entirely upon this outlet which the State, as a matter of good faith, if for no other reason, is bound to maintain until we say the canal has passed its usefulness.

By reference to the books in the canal appraiser's office at Albany you will find that in every case where an award was made to any of our citizens for permanent appropriation of lands, that a certain sum was deducted therefrom for prospective benefits. Do you not see that with her imperial power she has forced a contract upon us — that we have paid the cash for the prospective benefits? That now, with this contract unfulfilled on her part, and we demanding with he voice of justice for that which is due to us, she is made turn rom our people and listen to those who are favorites now, but whose ounsel is folly and whose flattery is death.

All of which is respectfully submitted.

February 26, 1875.

L. W. FISK,
C. S. PHELPS,
J. S. COMSTOCK.

Approved in full.
R. E. NICHOLS, *Collector.*

BLACK RIVER CANAL EXHIBIT, No. 2.

THE BLACK RIVER CANAL.

Report of Hon. Nelson J. Beach — The reasons for constructing the Black River canal — Probable results of its abandonment.

The following is the report of Hon. Nelson J. Beach, appointed y a meeting held at Boonville, February 23, 1875, made to the Hon. Adin Thayer, in relation to the proposed Black River canal:

o HON. ADIN THAYER, *Canal Commissioner:*

SIR. — One of the principal reasons for authorizing the construcion of the Black River canal in 1836, was that it would serve as a eeder to the enlarged Erie canal, which could not be operated withut a largely increased supply of water. It was soon found that the lack river was insufficient for that purpose, and a resort must be ad to resorvoirs.

An examination was made, in 1849, of the lakes upon the head aters of the Black river, and a temporary dam was constructed pon the largest, proving its capacity for furnishing a large supply f water. It was also found that three other lakes could be used for hat purpose. It was then well understood that the expense of the ork not necessary for the canal proper was to be charged to the nlargement. In 1839 and 1840, the expenses of the feeder were harged to the "Black River canal and Erie Canal feeder." Since hat time all the expenses of canal and feeder, of engineering, of eservoirs, of repairs, ordinary and extraordinary, of damages, of oads and bridges, have been charged to the Black River canal, when he water from these reservoirs was no more necessary for the canal han for the Central railroad.

It is believed that the streams intersecting the canal proper would e sufficient for it, without resort to the Black river. It was so nderstood at the time the canal was authorized.

The reservoirs are four in number, covering 2,522 acres and conain 1,807,619,822 cubic feet of water, all of which is used, with much nore, from the Black river, for the Erie canal at Rome. The expense f caring for the reservoirs is from $2,000 to $3,000 per year, when o break or accident occurs to them.

In 1869, the north reservoir dam was carried away, involving an expense of rebuilding of more than $100,000, and $256,379.89 in damages.

If the ordinary repairs for the two years preceding the breaking of this reservoir and the repairs of the years 1873 and 1874, amounting to $40,255 per year, be taken as a fair criterion of the annual repairs of this canal, then the building and rebuilding, and extra repairs of reservoirs and roads have cost, in six years, over $346,000, all of which is charged to the Black River canal, as well as $256,379.89, of damages caused by the break. In all, over $600,000, not one dollar of which is a legitimate charge to the Black River canal.

If the canal is abandoned, the reservoirs and twelves miles of present canal must be maintained, at a cost of probably $25,000 per annum.

From the period when the first reservoir was brought into use, the ordinary repairs have averaged $41,268.81 per year, including the annual care which the reservoirs must have at all times For the same period the tolls have averaged $20,577.75. Deducting the usual cost of caring for the reservoirs from the average of repairs, as reported by the Auditor, the difference between the repairs and tolls is about $18,000, but $3,000 more than it will probably cost to maintain a feeder for the Erie.

If a comparison be made for the last year, it will result as follows: Repairs, exclusive of reservoir, cost $43,672; tolls about $30,000, with those accruing upon the Erie upon freight for the Black river, leaving the Black river indebted about $13,000 — about what it would cost annually to maintain a feeder alone, under favorable circumstances.

Should all the water of the reservoirs and the Black river be taken through the Mohawk river to Rome, much damage is apprehended from its flooding and wearing away the intervale lands along the river, for which the State would be obliged to pay.

The streams entering the Black river between the head of the feeder and Carthage, the terminus of the canal, down which timber and logs can be floated, have lengths of 224 miles, by direct lines, with many smaller streams entering them, which can be utilized for the same purpose.

Upon these streams there are more than 800,000 acres of timbered land, which has never been cut upon. There is no outlet for this timber except by the Black River canal. Most of this land is worthless for agricultural purposes, and should the canal be abandoned, this large body of timber, now valuable, will be nearly worthless. Beside this large body of timber land, much has been purchased by individuals, in large and small parcels, for immediate use, perhaps 100,000 acres.

A very large amount of property has been invested in Oneida, Lewis and Jefferson counties, in mills, tanneries and other manufactories, because of the canal, much of which will become nearly worthless if the canal is abandoned, as their productions cannot be sent by any other conveyance than by canal, except at a loss. If the canal is abandoned, can the State do otherwise than pay these damages?

It is understood that there is a considerable amount of tolls collected at Erie canal offices, other than at Rome, on light boats and freight destined for the Black River canal. A portion of this has been ascertained, but not sufficiently to make an amount of it. It is supposed to amount to about $3,000 a year.

It is perhaps out of place here, to make a suggestion in relation to another feeder for the Erie, but as feeders are the theme, I will do so. Immediately above the feeder upon the Black River canal is a reach of still water of about six miles, with a favorable location for a dam at its lower end. A feeder at this point would fill several times in a season (at every considerable rain) retaining the water that would otherwise waste over the feeder dam and readily available for the Erie. Now, if water is wanted for the Erie, a telegram is sent to Boonville, and a man dispatched twenty to thirty miles to draw water from the reservoirs. The same process must be gone through with, when too much water is received at Rome, except that the gates must be closed instead of opened. If this additional reservoir is built, it will be within four miles of the telegraph office.

N. J. BEACH.

Dated ALBANY, *March* 3, 1875.

BLACK RIVER CANAL EXHIBIT, No. 3.

A. C. Eaton	$40,000 00
Custom mill	1,000 00
Norton	1,500 00
Pitcher	800 00
Partridge	20,000 00
Botchford	500 00
Goodwin	3,000 00
Vanernam	800 00
Higby	1,200 00
Abby	1,000 00
Gaylords	800 00
Northrup	1,000 00
R. Abby	1,000 00
Thirteen mills	$72,600 00

BLACK RIVER CANAL EXHIBIT, No. 4.

EXTRACT FROM ANNUAL REPORT OF DE WITT C. WEST, PRESIDENT UTICA AND BLACK RIVER RAILROAD COMPANY, DECEMBER, 1875.

Table of comparative tonnage of this road for the years 1873, 1874 and 1875:

	1873.	1874.	1875.
Products of forest......	18,218 tons.	15,592 tons.	14,802 tons.
Animals...............	9,335 "	10,211 "	9,533 "
Vegetable food.........	8,859 "	12,419 "	11,939 "
Other agricultl. products,	8,777 "	11,698 "	11,840 "
Manufactures	25,547 "	24,729 "	22,216 "
Merchandise............	10,710 "	10,038 "	12,288 "
Other articles...........	25,504 "	32,063 "	22,456 "
Total..............	106,950 tons.	116,750 tons.	105,074 tons.

The loss and gain of tonnage under the classification for the years 1873 and 1874 compared. is as follows:

	Loss.	Gain.
Products of the forest	2,626 tons.	....
Animals	....	876 tons.
Vegetable food......................	....	3,560 tons.
Other agricultural products............	....	2,921 tons.
Manufactures	818 tons.	....
Merchandise.........................	672 tons.	....
Other articles	....	6,559 tons.
Total.........................	4,116 tons.	13,916 tons.

Gain over loss, in 1874 over 1873, in tonnage, 9,800 tons.

Loss and gain in years 1874 and 1875 compared:

	Loss.	Gain.
Products of the forest.............. ..	790 tons.	....
Animals............................	678 tons.	....
Vegetable food......................	480 tons.	....
Agricultural products.................	....	142 tons.
Manufactures	2,504 tons.	....
Merchandise	....	2,250 tons.
Other articles.......................	9,607 tons.	....
Total	14,059 tons.	2,392 tons.

Loss in 1875 over gain, 11,667 tons.

BLACK RIVER CANAL EXHIBIT, No. 5.

To the Hon. A. B. Waldo, *and others, Commissioners on Lateral Canals:*

Gentlemen.— Below please find statement of tolls collected at the collector's office at Boonville, on the Black River canal, from May 15 to October 8, 1876, both dates inclusive, etc.

Also, amount of lumber, etc., cleared at this office to Rome, Stanwix and Utica, and from thence reshipped and cleared on the Erie:

Amount of tolls collected, Black river..	$10,680 45	
Amount of tolls collected, Erie........	7,275 21	
		$17,955 66
Amount of above tolls collected on freights from the Black River canal:		
Black river........................	$1,783 00	
Erie	1,961 75	
		3,744 89
Amount collected on freights from points on canal north of feeder:		
Black river........................	$8,897 31	
Erie	5,313 46	
		14,210 77
Total as above.............................		$17,955 66

Number of thousand feet of lumber cleared to Rome, Stanwix and Utica, and from thence recleared on the Erie, as near as I can ascertain and estimate, viz.:		
To Rome and Stanwix................	4,914,098 ft.	
To Utica............................	389,918 ft.	
		5,304,016 ft.

Also, 293,000 lbs. freight to Rome and recleared at that point:	
Estimated toll collected on above on the Erie........	$1,317 24

I think this sum should be added to tolls collected as above in determining credit due to the Black River canal; also, the amount collected on Erie on freight from Black River canal, in cases where cargo overruns bill of lading

All of which is respectfully submitted.

THOS. S. JONES,
Collector.

BLACK RIVER CANAL EXHIBIT, No. 6.

The following statistics show the total tonnage of all freight cleared at the offices of Lyons' Falls and Boonville, for the Black River canal and Black River improvement, prepared by the committee appointed by the board of supervisors of Lewis county, November, 1874, said committee being empowered to gather statistics and other evidence, and report the same to the Legislature to prevent, if possible, the sale, leasing or abandonment of said Black River canal. The total tonnage of freight cleared at the offices of Lyons' Falls and Boonville, is as follows:

	Tons.
Lyons' Falls, 1871	53,074
Lyons' Falls. 1872	60,246
Lyons' Falls, 1873	57,079
Boonville, 1871	43,966
Boonville, 1872	41,557
Boonville, 1873	35,063
Boonville, 1874 (no office at the Falls)	82,998

Totals of both offices for each year:

	Tons.
1871	97,040
1872	101,803
1873	92,142
1874	82,998

THEODORE BASSELIN,
EUGENE WOOLWORTH,
J. A. HARVEY,
Committee.

BLACK RIVER CANAL EXHIBIT, No. 7.

TOTAL AMOUNTS OF TOLL RECEIVED AT ROME, ON BLACK RIVER CANAL.

May	$85 09
June	467 69
July	302 10
August	208 50
September	256 63
October	309 25
November	200 00
	$1,829 26

Tolls received from lumber recleared at this office and credited to Erie canal, as follows:

Lumber	$1,084 22
Wood	175 00
Timber	30 00
	$1,289 22

Total from Black river, about $3,500.

J. D. MURPHY,
Clerk.

BLACK RIVER CANAL EXHIBIT, No. 8.

Black River Canal, S. F. Garmon, *Superintendent.*

The Black River canal extends from the junction with the Erie canal at Rome to Carthage, Jefferson county, a distance of seventy-eight miles, and includes the Black River improvement, the Moose River improvement above the dam at Lyons' Falls, one mile and a-half, the feeder from Boonville to Forestport, ten and a-half miles, the Delta feeder, the Black river above the dam at Forestport, two miles; also the North lake, South lake, Sand lake and Woodhull reservoirs.

The structures on this canal are 109 lift-locks, one guard-lock on Delta feeder, and one at the head of the Black River feeder, six aqueducts, viz.: Walsworth's, Stringer creek, Wells creek, Lansingkill and Sugar River aqueduct, eleven waste-weirs, twenty culverts, four stop gates, thirty-four road bridges (four iron chord and five all iron), thirty-eight farm bridges (one iron chord), five road and draw-bridges (one iron chord), three road and change bridges, one farm and change bridge, one tow-path bridge, two private bridges, thirty-five lock-houses, twenty-one watch-houses, three bridge-houses, one State shop, one timber shed, two keepers' dwellings (one at North lake and one at Woodhull reservoirs), five dams, one on the Mohawk, one on the Lansingkill and three on Black river, one lock and dam at Otter creek and one at Bush's landing on Black river.

The annexed schedule shows the cost of work done from April 1, 1876, to October 1, 1876, at which time this canal was transferred to the Middle Division.

Wilcox, Brayton's, Farr's and Comstock's farm bridges were extensively repaired early in the season, and light repairs by replanking, etc., were made on all farm bridges on the line of the canal.

Hick's, Buck Hill, Dominick St., Delta, Western, Whitesboro St., Thomas St., Ridge mills, Diefendorf's and Baker's road bridges were extensively repaired and put in good order. Light repairs, fixing approaches, building new abutments, putting in new needle beams, etc., have been made on nearly all the road bridges. Beaver River bridge, Tiffany and Beaches' bridges, on Black river, have been repaired during the season.

The "post road" bridge (one chord) the road bridge at Forestport, over the Black River feeder; the draw in Beaches' bridge and two seventy-two feet spans of the Illingworth bridge (iron chord), on Black river, have been entirely rebuilt.

The locks from No. 1 to 109 inclusive, have been repaired during the season thoroughly; new docking has been put in several; gravel filling, back of them, has been put in when needed, and all sink holes have been properly filled with gravel and cement. New miter sills have been put in where necessary, and new bottoms were built in several, before navigation in the spring.

New lock gates have been inserted at locks No. 5. 10, 23, 29, 31, 36, 37, 45, 59, 63, 65, 74, 93, 94, 95, twenty-one in all; twenty-nine more are completed and ready for immediate use. There is material on hand for building and completing ten more (except a portion of the arms).

Two gates for Otter Creek lock, on Black river, are stored on the bank near by the lock, ready to be inserted. General repairs have been made on all the gates by putting on new balance beams, bunting plank, etc.

Mohawk, Wells creek, Stringer creek, Lansingkill and Sugar River aqueducts have been repaired by replanking and inserting new timbers where needed, and are in thorough repair.

The sluices at locks No. 6, 8, 18, 28, 31, 35, 36, 48, 49, 50, 51, 53, 55, 84 and 93 were repaired, and two at locks 27 and 54 have been entirely rebuilt.

All the waste-weirs were put in good repair before navigation and required only light repair afterward during the season.

The dam at Forestport was relined with gravel; the dams on the Mohawk and Lansingkill had new aprons built, and a breach in the dam at Bush landing, on Black river, was promptly filled.

Very light repairs were made on the lock-houses. They are generally in good condition. A new wall was built under the one at lock No. 85, the old one having fallen down, making the building unsafe.

The dams on Black river were slash-boarded during the dry season.

The prism of the canal was thoroughly cleaned, and all bars were removed before the opening of navigation; none were created during the season, to cause any delay.

The tow-path has been raised at several points, and is in good condition the entire length of the canal.

A steam dredge has been used during the entire season in removing the bars in Black river, and navigation for steam tow-boats has been good.

The feeder bank has been carefully strengthened and lined with gravel to avoid breaks. Owing to the high banks that are very narrow in many places, it requires careful watching at all times when filled. But one State scow has been used on the canal. Light repairs have been made on it.

A slide occurred at the head of lock 62, in the month of August, but it was speedily repaired and did not delay navigation.

Lock No. 4 became undermined in September, causing a delay in navigation of two and a-half days, being the only delay during the season by reason of accident.

Three keepers have been employed at the reservoirs; no repairs have been made to them. Special messengers have been sent for water whenever it was needed for the Erie. They were all filled in the spring, except South lake, and that was not entirely filled on account of the weakness of the dam—it being deemed unsafe. Woodhull reservoir is about two-thirds full, and North lake reservoir nearly full. South lake and Sand lake reservoirs are entirely drawn down.

About twenty-five new lock-gates will have to be inserted the next year. A number of the gates need new balance beams, some of the locks want new miter-sills, and replanking. Otherwise they are in good condition.

Westernville and No. 9 feeder road-bridges, and Hillside road and change-bridges, one (1) span of Whittlesey bridge, and a new draw in Tiffany's bridge on Black river, should be built the coming year.

Owens' farm bridge needs rebuilding.

The iron bridge over Black river at Carthage needs general repairs to the masonry and superstructure. They will necessitate an outlay of $2,000 or $2,500.

The dams are in good condition. The culverts and waste-weirs will only require light repairs, and the sluices will need the usual renovating in the spring.

South lake reservoir needs repairing. The old timber trunks are rotten and very unsafe, and new pipes of iron should be inserted in their places immediately.

I earnestly recommend the enlargement of the Black river feeder for a distance of four and a half miles from its head toward Boonville. Its present size is insufficient to keep up navigation on the Summit when there is a heavy draught of water for the Erie canal.

Respectfully submitted.

S. F. GARMON,
Superintendent.

To C. A. Walrath,
Commissioner Middle Division.

Superintendent's expenditures for six months ending Oct. 31, 1876.
S. F. GARMON, *Superintendent.*

Structures or works, etc.	Cost of new structures.	Cost of repairs of old, etc.	Total new and old.
Locks		$1,634 80	$1,634 80
Lock tending		7,860 00	7,860 00
Lock-gates	$1,753 18	2,025 75	3,778 93
Aqueducts		415 90	415 90
Waste-weirs		10 01	10 01
Sluices		653 07	653 07
Bridges	1,872 12	804 26	2,676 38
State scows		78 64	78 64
Under-water excavators: (dredging)		1,207 70	1,207 70
Lock-houses		74 94	74 94
Raising and repairing tow-path		2,010 12	2,010 12
Cleaning out bottom of canal during spring repairs		1,883 05	1,883 05
Dams		368 00	368 00
Docking		213 73	213 73
Watching canal		130 00	130 00
Wheel-barrows	75 00		75 00
Tools	64 17		64 17
	$3,764 47	$19,369 97	
Reservoir keepers			770 00
Special foremen			1,200 00
Scow foremen			292 50
Messenger to reservoir			166 84
Care of feeder (special watch)			390 00
Superintendent's salary			750 00
Clerk hire			450 00
			$27,153 78

BLACK RIVER CANAL EXHIBIT, No. 9.

Black River Canal, SAMUEL F. GARMON, *Superintendent.*

Report of work done and cost of same for six months ending April 1, 1876, at which time this canal was transferred from the eastern to the middle division.

The structures on this canal are the same as in my preceding report.

The annexed schedule shows the cost of work done during the above period.

General repairs were made on the locks and lock-gates during October and November, and the locks well braced after the close of navigation.

New lock-gates were inserted at locks Nos. 28, 33, 41, 44 and 51; one at each.

The sluices at locks Nos. 25, 45, 48, 50, 60, 66, 68, 80, 86, 106 and 107 were repaired generally.

Floyd Hill, Westernville, North Western, Dominick street, Delta feeder road bridges and Tiffany and Illingworth river bridges were repaired by replanking and fixing the approaches.

Pitcher's and Owen's farm bridges were thoroughly repaired in October.

The towing-path was raised at locks 16, 17, 24, 25, 29, 30, 31, 33, 35, 44, 51, 52, 61, 77, 112, and a portion of feeder bank relined with gravel.

In December repairs sufficient to prevent accident were made to the Delta feeder dam, at an expense of about seventy dollars.

The spill way of the dam at South lake reservoir was cleaned out in December, being filled with fallen timber, etc., and the gates also received light repairs.

Four keepers were employed at the reservoirs during the six months.

In March Beaver river and Glendale bridges were replanked.

No boats were sunk on the canal during the fall long enough to delay navigation, and the canal is in good shape for navigation the coming season.

Respectfully submitted.

S. F. GARMON,
Superintendent.

To Hon. ADIN THAYER,
Commissioner Eastern Division.

Superintendent's expenditures for six months ending April 1, 1876, S. F. GARMON, *Superintendent.*

Structures or works, etc.	Cost of new structures.	Cost of repairs of old, etc.	Total old and new.
Locks	....	$209 00	$209 00
Lock tending	....	2,703 14	2,703 14
Lock-gates	$935 47	1,088 54	2,024 01
Sluices	....	321 78	321 78
Waste-weirs	....	40 00	40 00
Bridges	503 27	693 70	1,196 97
State scows	....	3 00	3 00
State scow foreman	....	82 50	82 50
Under-water excavators	....	83 00	83 00
Under-water excavators engineers	....	165 00	165 00
Raising and repairing tow-path and berme bank	....	895 60	895 60
Dams	....	170 78	170 78
Watching canal	....	234 25	234 25
Tools	2 91	....	2 91
	$1,441 65	$6,690 29	

Special foreman	$800 00
Reservoir keepers	1,325 00
Messenger to reservoir, and reservoir repairs	291 00
Miscellaneous	124 26
Clerk hire	450 00
Superintendent's salary	750 00
	$11,872 20

BLACK RIVER CANAL EXHIBIT, No. 10.

DIMENSIONS OF RIVER BRIDGES.

Carthage bridge (iron), five spans seventy-four feet in length and two spans fifty-six feet in length; in bad condition.

Parker's bridge (wood), three spans eighty-five feet long, and swing. Beaver river bridge (wood), two spans sixty-five feet long.

Illingworth bridge (iron chord), three spans seventy-two feet long, and swing.

Beach's bridge (wood), two spans seventy-two feet long, and swing.

Tiffany's bridge (wood) two spans ninety-four feet long, and swing.

Whittlesey bridge (wood) one span seventy-four feet long, and one span fifty-four feet long, and swing.

Lyons' Falls. Moose river (iron chord), two spans ninety-four feet.

Lyons' Falls. Black river (iron chord), two spans ninety-four feet.

CHEMUNG CANAL EXHIBIT, No. 1.

ABSTRACT *of money received and paid by N. S. Somers, collector of tolls at Corning, on the Chemung canal, from the* 10*th of June to* 16*th of October*, 1876:

	Chemung.	C and S..	Erie.	Total.
Tolls received, October 16, 1876	$1,800 13	$200 07	$656 26	$2,657 00
Tolls received, season of 1875	767 49	310 17	886 80	1,963 92
Tolls received, 1874	1,369 59	560 80	1,738 11	3,668 55

COLLECTOR'S OFFICE, CORNING, *October* 18, 1876.

N. S. SOMERS,
Collector.

CHEMUNG CANAL EXHIBIT, No. 2.

Report, *showing the name and number of structures or works, the different heads of expenditure, and the total cost of each, on the line of the canal under the charge of Calvin Shelton, Superintendent of Repairs of thirty-nine miles of the Chemung canal, extending from Watkins to Elmira, and from Horseheads to Corning, during the fiscal year ending September* 30, 1876.

Structure or work, etc.	Whole No. on section.	Cost of new structures.	Cost of rep. of old, etc	Total new and old.
Locks	52		$330 70	$330 70
Lock tending (exclusive of oil				
Oil for locks				
Lock gates			114 83	114 83
Aqueducts	4		140 79	140 79
Waste-weirs	10		63 40	63 40
Culverts				
Weigh-locks				
Farm bridges (wood)	14		79 21	79 21
do (iron)				
Road bridges (wood)	30		480 43	480 43
do (iron)	5			
Tow-path bridges (wood)	2		57 08	57 08
do (iron)				
State scows	1		11 36	11 36
Small boats				
Ice breakers				
Under-water excavators				
Lock-houses				
Workshops				
Watch-houses				
Storehouses				
Timber sheds				
Piling machines				
Raising and repairing tow-path and berme bank, *not including* repairs to slope walls			382 33	382 33
Cleaning out bottom of canal during spring repairs			790 75	790 75
Cleaning out creeks				
Dams (feet)				
Slope wall				
Docking			15 50	15 50
Repairs of breaches				
Breaking ice and assisting boats in consequence of ice				
Watching canal			85 00	85 00
Wheel-barrows		14 00		14 00
Tools, including shovels, picks, crowbars, axes, etc.		16 45	2 26	18 71
Other miscellaneous expenditures,				2,310 32
				$6,494 41

Other work of consequence which does not come under any of the above heads, viz.:

Superintendent's salary and clerk hire	$1,575 00
Expended by commissioner (dredging)	614 95
	$8,684 36
Deduct for amount expended in 1875	2,036 88
	$6,647 48
Add amount to be expended from September 30 to December 31, 1876	1,600 00
	$8,247 48

GENESEE VALLEY CANAL EXHIBIT, No. 1.

OLEAN, *November* 15, 1876.

Place.	No. boats.	Lumber.	Shingles.	Cords wood.	Cub. ft. timber.
Rochester	114	7,717,636	752	105	......
Brockport	37	1,911,614	385¾	...	......
Holley	12	626,304	270½	...	......
Lyons	10	551,679	......	...	......
Middleport	14	827,288	......	...	......
Pittsford	5	267,771	......	...	......
Lockport	1	46,132	......	...	......
Gasport	1	24,264	......	...	......
Fairport	7	371,409	104½	...	......
Palmyra	7	314,769	......	...	......
West Troy	2	82,524	......	...	......
Albion	2	94,454	......	...	......
Macedon	1	44,827	......	...	......
Spencerport	1	40,000	......	...	......
Newark	2	86,734	......	...	......
Medina	1	55,498	......	...	......
Syracuse	2	91,111	181	...	......
	219	13,154,014	1,693¾	105	......
Cleared to places short of Rochester	18	880,886	313½	30	67,666
	237	14,034,900	2,007¼	135	67,666

Tolls on Genesee Valley canal to November 15, 1876	$14,171 05
Tolls on Erie canal, received here	454 62
Total	$14,625 67

H. W. RUGG,
Collector.

GENESEE VALLEY CANAL EXHIBIT, No. 2.

Statement submitted by W. A. Kirkpatrick, Superintendent Genesee Valley Canal.

Cuba, N. Y., *October* 31, 1876.

Hon. James Jackson, Jr., *Canal Commissioner:*

Dear Sir.—According to a request from you in a printed circular lated October eighteenth, I submit the following report, commencing he first of April and ending the thirtieth of September:

I have charge of the Genesee Valley canal, extending from Rochester to Millgrove, also the Dansville side cut, a distance of 125 niles. The mechanical structures on this canal are as follows: Four guard-locks, 114 lift-locks, 9 dams, 6 bulkheads, 19 aqueducts, 31 vaste weirs, 109 culverts, 96 wood farm bridges, 1 wood farm and change bridge, 90 wood road bridges, 4 wood road and change bridges, 7 towpath bridges, 24 iron road bridges, 38 lock-houses, 2 vorkshops, 1 wooden trunk, 2 wood foot bridges. Total, 224.

All of the locks have received more or less repairs, consisting of new lining, miter sills, etc., together with repairs to gates, costing the sum of...............	$1,568 48
The several aqueducts have received more or less repairs at a cost of..	946 21
The waste-weirs have been repaired at a cost of......	220 35
Three wood farm bridges have been rebuilt and the others repaired, costing the sum of...............	1,215 91
Two new wood road bridges have been built and all others repaired, costing the sum of...............	1,983 37
ron road bridges have been repaired at a cost of	300 75
Wood towing-path bridges have received repairs amounting to..	136 40
The several State scows have received repairs amounting to the sum of..............................	279 79
Lock-houses have received slight repairs, costing......	6 29
Raising and repairing towing-path and berme bank, have cost the sum of.........................	2,134 65
Cleaning out canal during spring repairs, cost the sum of	4,760 36
Extensive repairs to dam at Mount Morris and slight repairs to other dams, have cost..................	2,729 42
Watching canal has cost..............................	1,090 95
Repairs of breaches have cost	696 12
Tools, wheel-barrows and the repairs of old, have cost the sum of......................................	199 17
Slight repairs to culverts, have cost	53 85
Raising the outlet of Oil creek reservoir, cost........	199 10
The slide at Portage during spring repairs, cost the sum of..	1,579 75
Cutting eel grass, thistles, weeds, etc., cost..........	569 12

Rent for storehouses, has cost	$40 00
Repairs to slope walls have cost	66 90
Repairs to docking, has cost	30 75
Special foremen, cost	1,427 50
There has been paid for lock tending	4,594 79
Cleaning out creeks, cost	55 55
Overflows, filling canal and other miscellaneous repairs,	1,231 28
Clerk hire, superintendent's salary	1,081 28
Total	$29,198 09

Summary of Expenditures.

Expended by superintendent for new work or structures,	$1,814 51
Expended by superintendent for ordinary repairs	26,633 58
Superintendent's salary, W. A. Kirkpatrick	375 00
Clerk hire	375 00
	$29,198 09
Amount expended from October 1, to December 1, 1876, not yet ascertained, will be short of	9,000 00
Total	$38,198 09

GENESEE VALLEY CANAL EXHIBIT, No 3.

Statement submitted by Collector at Mount Morris.

Number of clearances issued at Mount Morris office on the Genesee Valley canal, on boats and property moving north on the main line of said canal, with a statement of the amount of toll received from such boats and property during the year 1876, *at Mount Morris:*

Number of clearances to boats moving north on main line	215

Toll on boats	$307 77
Boards and scantling, 1,083,112 feet, toll	735 34
Shingles, 155½ M., toll	21 83
Timber, 7,500 cubic feet	55 25
Staves, 4,027,160 pounds	568 88
Wood, 3,128 cords	1,758 44
Flour, seventy-one barrels	77
Wheat, 5,850.6-7 bushels	28 37
Corn, 894.1-56 bushels	1 64
Barley, 7,100 bushels	12 54
Oats, 1,820 bushels	4 01
Apples, 4,021 barrels	254 40
Hemp, 10,316 pounds	4 12

urniture, 4,500 pounds	$0 95
erchandise, 44,003 pounds	11 14
one, lime and clay, 1,564,000 pounds	215 98
ndries, 2,080,698 pounds	344 72
Amount of toll received at Mount Morris on boats and property moving north on main line	$4,326 15

umber of clearances issued at Mount Morris office on the Genesee Valley canal on boats and property transported south on the main line of said canal, together with a statement of the amount of toll received from such boats and property during the year 1876:

umber of clearances issued to boats moving south	139

oll on boats	$83 15
taves, 112,000 pounds, toll	49
our 1, 273 barrels, toll	89 75
heat, 122.8-56 bushels, toll	29
rn, 609 bushels, toll	3 93
rn meal, 74 barrels, toll	3 29
an and shipstuffs, 276,016 pounds, toll	70 69
omestic salt, 9,000, pounds, toll	1 47
erchandise, 12,368 pounds, toll	2 43
one and lime, 33,000 pounds, toll	6 21
nthracite coal, 20,000 pounds, toll	69
ndries, 2,329,563 pounds, toll	111 75
ypsum, 140,000 pounds, toll	8 75
Amount of toll received at Mount Morris office on boats and property moving south on main line	$382 89

umber of clearances issued at Mount Morris office on the Genesee Valley canal on boats and property transported on the Dansville branch of said canal, together with a statement of the amount of toll received from such boats and property during the year 1876:

umber of clearances	82

oll on boats	$67 40
oards and scantling, 351,500 feet, toll	175 57
mber, 21,276 cubic feet, toll	134 04
aves, 180,000 pounds, toll	17 10
ood, 982 cords, toll	321 35
rain, 1,565 bushels, toll	23 85
erchandise, 560 pounds, toll	15
ndries, 116,000 pounds, toll	23 25
Amount of toll to be credited to Dansville branch	$762 71

The following is a statement of amount of toll received at Mount Morris office on the Genesee Valley canal during the year 1876;

Received toll, Genesee Valley canal	$5,420 75
Received toll, Erie canal	51 00
Total	$5,471 75
Amount refunded to be deducted..................	8 48
Total amount deposited in Genesee River Nat. bank,	$5,463 27

GENESEE VALLEY CANAL EXHIBIT, No. 4.

Statement of tolls received at Rochester, for boats and freight over Genesee Valley canal, for season of 1876.

Amount $1,370.78.

APPENDIX.

TABLE No. 1.

Chenango Canal.

STATEMENT showing the amount of tolls collected on and credited to the Chenango canal; the tolls contributed to the Erie; the cost of superintendence and ordinary repairs; extraordinary repairs and damages paid from 1865 *to* 1876, *both inclusive.*

YEARS.	Tolls proper.	Tolls contribut'd to the Erie canal.	Superintendence and ordinary repairs.	Extraordinary repairs.	Damages.
1865	$21,710 98	$283 46	$189,808 55	....	....
1866	35,465 80	274 05	124,581 96	$497 52	....
1867	28,959 49	419 70	145,102 89	40,000 00	$1,435 05
1868	25,074 73	479 17	148,831 16	4,848 84	....
1869	21,654 01	382 69	54,741 80	8,807 87	....
1870	20,544 55	266 96	133,095 52	8,912 58	48,890 84
1871	8,981 38	129 58	185,695 60	18,548 89	29,811 79
1872	6,145 11	87	123,397 40	44,401 18	37,702 58
1873	4,061 22	21 29	42,218 12	145,297 47	76,185 18
1874	4,664 29	8 96	43,971 52	26,181 87	107,886 60
1875	2,909 68	29 59	26,121 52	3,180 62	5,922 28
1876	3,096 32	....	8,319 41	....	1,921 76

TABLE No. 2.

Chemung Canal.

STATEMENT showing the amount of tolls collected on and credited to the Chemung canal; the tolls contributed to the Erie; the cost of superintendence and ordinary repairs; extraordinary repairs and damages paid from 1865 *to* 1876, *inclusive.*

YEARS.	Tolls proper.	Tolls contribut'd to the Erie canal.	Superintendence and ordinary repairs.	Extraordinary repairs.	Damages.
1865	$16,745 91	$24,912 86	$104,098 49	$23,072 98	$8,605 16
1866	18,252 04	41,905 02	61,958 41	47,504 47	38,618 81
1867	14,523 14	23,087 12	80,238 12	54,127 25	35,780 48
1868	12,222 93	17,532 62	68,868 29	11,289 11	14,542 29
1869	9,514 27	15,234 15	41,064 08	39,661 95	....
1870	5,984 90	6,186 48	56,965 98	56,968 16	27,328 81
1871	6,187 79	4,736 15	97,644 94	56,870 84	37,627 78
1872	4,120 81	4,281 25	73,484 80	30,550 15	188 68
1873	3,664 38	3,267 95	37,016 59	15,077 05	17,738 00
1874	2,914 44	1,885 10	38,666 72	6,840,00	....
1875	1,717 82	880 10	25,778 20	3,076,58	11,334 91
1876	2,104 84	907 92	9,794 71	....	7,976 21

TABLE No. 3.

CROOKED LAKE CANAL.

STATEMENT showing the amount of tolls collected on and credited to the Crooked Lake canal, the tolls contributed by it to the Erie, the cost of superintendence and ordinary repairs and extraordinary repairs, from 1865 *to* 1876, *inclusive.*

YEARS.	Tolls proper.	Tolls contribut'd to the Erie canal.	Superintendence and ordinary repairs.	Extraordinary repairs.
1865	$290 65	$5,505 67	$37,088 85	$6,171 94
1866	534 96	8,680 37	7,904 12	4,825 00
1867	672 93	8,872 32	8,297 62	....
1868	359 91	2,883 82	8,190 64	21,991 97
1869	338 81	5,338 60	8,601 77	42,667 85
1870	401 74	2,517 66	7,511 03	950 80
1871	301 47	3,738 57	73,833 54	4,800 00
1872	270 24	1,502 93	13,705 25	....
1873	228 61	1,616 12	7,325 58	3,785 31
1874	248 58	677 52	12,768 47	....
1875	126 09	*	7,710 15	....
1876	30 48	*	1,592 89	....

TABLE No. 4.

GENESEE VALLEY CANAL.

STATEMENT showing the amount of tolls collected on and credited to the Genesee Valley canal, the tolls contributed to the Erie, the cost of superintendence and ordinary repairs, and extraordinary repairs and damages paid, from 1865 *to* 1876, *both years inclusive.*

YEARS.	Tolls proper.	Tolls contribut'd to the Erie canal.	Superintendence and ordinary repairs.	Extraordinary repairs.	Damages.
1865	$18,410 41	$7,653 59	$257,143 23	$6,994 27	$39,399 84
1866	17,772 82	14,442 21	110,883 40	135 00	13,033 42
1867	25,394 63	9,230 66	92,166 73	16,743 07	30,571 12
1868	23,770 88	16,258 23	98,679 42	9,325 71	15,698 75
1869	22,246 80	9,654 62	122,368 80	12,666 99	215 72
1870	18,648 20	10,706 84	157,638 79	185,221 75	49,044 47
1871	18,895 17	5,173 12	220,483 10	115,247 91	6,352 92
1872	19,674 83	4,484 05	210,022 62	19,305 57	285 11
1873	26,318 99	3,665 35	111,005 48	14,797 00	60,492 83
1874	16,441 23	2,126 89	108,879 54	3,762 09	49,258 77
1875	12,406 26	881 69	100,191 26	9,151 18	15,888 96
1876	14,668 50	513 00	23,264 10	96 00	7,865 93

* Not ascertainable for 1875.

TABLE No. 5.

Black River Canal.

STATEMENT showing the amount of tolls collected on and credited to the Black River canal, the tolls contributed to the Erie, the cost of superintendence and ordinary repairs, extraordinary repairs and damages paid from 1865 *to* 1876, *both years inclusive.*

YEAR.	Tolls proper.	Tolls contribut'd to the Erie canal.	Superintendence and ordinary repairs.	Extraordinary repairs.	Damages,
865	$10,985 87	$9,861 81	$59,898 57	....	$21,614 50
866	13,449 82	14,449 21	51,318 21	....	5,716 95
867	12,993 01	13,823 24	43,725 15	....	14,290 41
868	10,432 62	12,418 12	86,153 30	$1,088 00	13,088 16
869	11,810 30	13,338 65	69,522 55	6,029 72	953 80
870	11,992 24	15,812 69	201,409 99	13,449 00	24,463 97
871	12,813 03	13,193 43	130,238 15	31,093 20	5,318 52
872	10,937 88	17,402 54	92,515 57	26,812 14	151 64
873	10,988 89	14,610 66	70,668 73	28,089 46	25,855 26
874	10,589 93	18,280 12	63,965 91	13,848 70	309,464 87
875	7,214 64	7,647 36	45,880 67	....	55,619 79
876	11,339 28	9,080 72	35,074 13	1,193 96	1,911 59

TABLE No. 6.

STATEMENT showing the tons of property moved on each of the following canals from 1865 *to* 1876, *inclusive.*

YEARS.	Chemung.	Crooked Lake.	Chenango.	Genesee Valley.	Black River.
865	164,796	9,376	68,822	56,581	78,317
866	226,510	12,189	107,472	86,579	85,908
867	145,627	6,558	103,064	64,679	70,539
868	134,376	4,451	112,455	138,364	79,770
869	132,278	7,541	83,527	69,141	80,550
870	71,629	15,825	102,820	79,788	96,329
871	89,975	12,024	39,793	85,269	89,560
872	78,623	7,145	26,519	96,112	94,776
873	63,253	12,831	30,317	86,770	86,017
874	23,592	9,286	33,059	69,393	77,601
875	17,925	....	23,769	64,677	65,993
876	23,058	....	6,227	47,360	67,927

TABLE No. 7.

STATEMENT showing the revenue derived from each of the following canals; the cost of maintaining and construction, and the loss to the State in operating each, after deducting its revenues

Tolls.		Disbursements.		Loss.
CANAL.	Revenues.	Cost of collection and ordinary repairs.	Cost of construction.	Loss of operating in excess of revenues.
hemung	$518,798 77	$2,074,208 11	$1,424,291 78	$2,979,706 07
rooked Lake	45,352 71	423,942 08	394,933 73	773,523 10
henango	739,557 88	2,048,382 98	4,776,989 03	6,085,814 13
lack River	225,008 82	1,250,385 51	3,885,149 23	4,910,445 92
enesee Valley	828,542 76	2,685,927 45	6,731,149 81	8,588,534 00

ANNUAL REPORT

OF THE

AUDITOR OF THE CANAL DEPARTMENT

ON THE

OLLS, TRADE AND TONNAGE

OF THE CANALS

OF THE

STATE OF NEW YORK, FOR 1876.

RANSMITTED TO THE LEGISLATURE JANUARY 19, 1877.

JEROME B. PARMENTER STATE PRINTER.
1877.

STATE OF NEW YORK.

No. 31.

IN ASSEMBLY,

January 19, 1877.

ANNUAL REPORT

OF THE

UDITOR OF THE CANAL DEPARTMENT ON THE TOLLS, TRADE AND TONNAGE OF THE CANALS OF THE STATE, FOR THE YEAR 1876.

STATE OF NEW YORK:

CANAL DEPARTMENT,
ALBANY, *January* 19, 1877.

on. GEO. B. SLOAN, *Speaker of the Assembly:*

SIR.—Allow me, through you, to present to the Legislature the nnual report from this department on the tolls, trade and tonnage the canals, for the year 1876.

Your obedient servant,

G. W. SCHUYLER,

Auditor.

REPORT.

STATE OF NEW YORK:

CANAL DEPARTMENT,
ALBANY, *January* 19, 1877.

To the Legislature of the State of New York:

The Auditor of the Canal Department, in accordance with the requirements of the statutes, submits to the Legislature the annual report of the tolls, trade and tonnage of the canals of this State, during the season of navigation of 1876, and all the matters which are required to be presented to the Legislature are fully and particularly set forth in the annexed tables.

The additional tables and comparative statements which will be found embodied in this report, have been carefully compiled from official documents in the Auditor's possession, in order to show, as far as practicable, a comprehensive view of the trade and tonnage, by the canals, between the great lakes and the Hudson river, and New York.

The whole amount of toll received is $1,340,004

Which is composed as follows:

Tolls on boats and passengers		$116,791
Tolls on products of the forest..........................		388,463
Tolls on products of animals	$700	
Tolls on vegetable food....................	596,623	
Tolls on other agricultural products	262	
		597,585
Tolls on manufactures.................................		39,731
Tolls on merchandise..................................		14,233
Tolls on other articles..................................		183,201
		$1,340,004

The whole amount of tonnage arriving at tide water, by way of the Erie canal, from Western States and Canada, during the last season of navigation, was 1,745,320. The whole amount of tonnage arriving at tide water, the products of this State, during the same period, was 342,552.

The whole number of barrels of flour arriving at tide water through the canals, during the last season of navigation, was	36,240
The whole number of bushels of wheat arriving during the same period, 11,792,299, which, turned into flour, calculating five bushels to the barrel, would make..	2,358,460
Total in barrels	2,394,700

The total number of bushels of corn arriving at tide water, during the same period, was 11,371,071. The whole number of boats, new and old, registered during the last year, was seventy-five, with a tonnage of 10,825, making an average tonnage of 144. The total number of lockages at Alexander's lock for the season, 16,671, the greatest number at any one lock.

Comparing the season of 1876 with that of 1875, it shows a decrease in the revenue of $250,028, and a decrease in tonnage of 687,729, divided among the different classes as follows:

Products of the forest, decrease	75,233	
Vegetable food, decrease	241,257	
Merchandise, decrease	45,198	
Products of animals, decrease	357	
Other articles, decrease	227,652	
All other agricultural products, decrease,	2,502	
Manufactures, decrease	95,530	
		687,729

The whole amount of tonnage transported on the canals during the last season of navigation, ascending and descending, was 4,172,129, and is composed as follows:

Products of the forest		1,175,313
Products of animals	1,896	
Vegetable food	1,064,293	
Other agricultural products	1,308	
		1,067,497
Manufactures		180,201
Merchandise		64,943
Other articles		1,684,175
		4,172,129

The value of such tonnage is as follows:

Products of the forest		$11,132,966
Products of animals	$539,928	
Vegetable food	31,739,420	
Other agricultural products	160,509	
		32,439,857
Manufactures		3,375,119
Merchandise		31,069,375
Other articles		35,073,062
		$113,090,379

The total movement of freight, or tons carried one mile, during the last season, was 570,969,064.

The total movement of the several classes composing such tonnage is as follows:

Products of the forest		77,400,765
Products of animals	278,000	
Vegetable food	297,824,000	
Other agricultural products	101,333	
		298,203,333
Manufactures		22,723,133
Merchandise		9,020,000
Other articles		163,621,833
		570,969,064

The decrease in lockages at Alexander's lock is 2,090. In flour and wheat, comprised in the returns of vegetable food, there has been a decrease in the tonnage the past year of 336,262, and a decrease in tolls of $222,056. In corn and oats there has been an increase in tonnage during the same period of 72,653 and an increase in tolls of $47,838. Under the head of "products of the forest," there was a decrease in the tonnage upon shingles, boards and scantlings, of 45,169 tons, and a decrease in the tonnage upon timber, staves and wood, of 30,119, and an increase in pot and pearl ashes of 55. Under the head of "other articles," there was a decrease in the tonnage of anthracite and bituminous coal, for the same period, of 180,393, and an increase in sundries of 135,735 tons.

The whole number of bushels of barley transported on the canals in 1875 was	4,353,125
The whole number transported in 1876 was	4,020,584
Decrease in 1876	332,541

The whole number of bushels of barley which arrived at tide water in 1875 was	3,802,958
The number of bushels which arrived in 1876 was	3,761,208
Decrease in 1876	41,750

The whole amount of tolls received on barley and barley malt in 1875 was	$46,133
And in 1876	43,876
Showing a decrease in tolls of	$2,257

The following statement shows the number of tons of each class of property carried on the canals during the season of navigation in the year 1876, and on the Erie and Central railroads from the 1st of October, 1875, to the 30th of September, 1876:

DESCRIPTION OF PROPERTY.	Tons of each class carried on the canals.	Tons of each class carried on the railroads.	Total tons of each class carried on the canals and railroads.
Products of the forest	1,175,313	604,429	1,779,742
Products of animals	1,896	1,168,798	1,170,694
Vegetable food	1,064,293	2,875,803	3,940,096
Other agricult'l products	1,308	456,447	457,755
Manufactures	180,201	1,069,333	1,249,534
Merchandise	64,943	1,156,002	1,220,945
Other articles	1,684,175	5,445,686	7,129,861
Total tons carried	4,172,129	12,776,498	16,948,627

Mileage on the canals, 570,969,064. Mileage on railroads, 2,714,878,976. The mileage on canals, or number of tons moved one mile, has decreased, since 1875, 156,628,300 tons, and the mileage on the railroads has, during the same period, increased 294,252,897 tons.

CANALS AND LAKE FREIGHTS.

The following monthly tables for the years 1861, 1862, 1863, 1864, 1865, 1866, 1867, 1868, 1869, 1870, 1871, 1872, 1873, 1874, 1875, and the weekly and monthly tables for 1876, have been carefully compiled from the daily commercial reports published in Chicago, Buffalo and Oswego.

Verified as these reports are, the Auditor feels authorized to place them before the Legislature as, in their main features, accurate and reliable. They certainly do present important and highly interesting facts in regard to the cost of transportation from the upper lakes through the canals to tide water. They show how much of the monthly average on the cost of the transportation of a bushel of wheat or corn from Chicago to New York is taken by the State for the use of 345 miles of artificial water navigation, and how much goes to the carrier by lake, canal and river.

STATEMENT showing the average rate of lake freight on wheat and corn between Chicago, Buffalo and Oswego; also the average rate of canal freight on the same articles between Buffalo, Oswego and New York, for each month during the season of canal navigation, 1861.

PERIOD.	From Chicago to Buffalo.		From Buffalo to New York.		From Chicago to Oswego.		From Oswego to New York.	
	Wheat per bushel 60 lbs.	Corn per bushel 56 lbs.	Wheat per bushel 60 lbs.	Corn per bushel 56 lbs.	Wheat per bushel 60 lbs.	Corn per bushel 56 lbs.	Wheat per bushel 60 lbs.	Corn per bushel 56 lbs.
	c. m. f.	c. m. f.	c. m. f.	c. m. f.	c. m. f.	c. m. f.	c. m. f.	c. m. f.
April	13 6 9	12 8 1	......	......	17 3 3	15 6 6	......	......
May	7 2 5	6 3 7	13 8 7	12 8 1	11 5 6	10 5 6	9 2 8	8 0 0
June	6 8 8	6 3 1	11 3 8	10 3 8	10 0 0	9 3 8	8 0 0	7 0 0
July	5 7 5	5 2 5	11 5 0	10 5 6	8 5 6	7 9 3	8 0 0	7 0 9
August	10 0 0	8 8 1	11 8 1	10 8 1	13 8 8	12 6 3	8 2 5	7 2 5
September	14 0 0	12 9 3	15 7 5	14 5 0	18 9 3	17 8 1	10 7 5	9 7 5
October	18 6 3	17 2 5	20 3 1	18 3 8	24 4 3	22 5 0	13 9 3	12 9 3
November	16 0 8	14 7 5	25 6 5	23 5 8	20 6 6	19 2 5	19 5 8	18 5 0
Average for the season	11 5 3	10 5 6	15 7 5	14 4 3	15 6 7	14 4 6	11 1 1	10 1 0

The above rates include canal tolls, as follows:

On wheat, per bushel, from Buffalo to Troy	05 1 7	Highest rate, lake freight, from Chicago to Buffalo	26c.	wheat.
On corn, per bushel, from Buffalo to Troy	04 8 3	Highest rate, lake freight, from Chicago to Oswego	30½c.	wheat.
On wheat, per bushel, from Oswego to Troy	02 9 5	Highest rate, canal freight, from Buffalo to New York	20c.	wheat.
On corn, per bushel, from Oswego to Troy	02 7 5	Highest rate, canal freight, from Oswego to New York	22c.	wheat.

STATEMENT showing the average rate of lake freight on wheat and corn between Chicago, Buffalo and Oswego; also the average rate of canal freight on the same articles between Buffalo, Oswego and New York, for each month during the season of canal navigation, 1862.

PERIOD.	From Chicago to Buffalo.		From Buffalo to New York.		From Chicago to Oswego.		From Oswego to New York.	
	Wheat per bushel 60 lbs.	Corn per bushel 56 lbs.	Wheat per bushel 60 lbs.	Corn per bushel 56 lbs.	Wheat per bushel 60 lbs.	Corn per bushel 56 lbs.	Wheat per bushel 60 lbs.	Corn per bushel 56 lbs.
	c. m. f.	c. m. f.	c. m. f.	c. m. f.	c. m. f.	c. m. f.	c. m f.	c. m. f.
May	6 8 1	6 1 5	13 5 0	11 5 0	10 5 0	9 6 3	9 9 4	8 5 0
June	8 5 0	7 6 9	12 8 1	10 8 1	12 0 0	11 0 0	8 5 0	7 2 5
July	12 0 0	11 0 6	14 2 5	12 2 5	17 1 3	16 0 6	9 1 3	7 8 7
August	7 4 4	6 6 9	15 1 2	13 1 3	12 0 0	11 2 5	9 6 2	8 3 8
September	10 5 0	9 5 0	17 2 5	15 1 8	15 6 9	14 6 8	12 6 9	11 1 3
October	12 8 8	11 8 7	18 3 1	16 1 2	17 6 8	16 6 9	12 1 8	10 7 5
November	15 3 1	14 2 5	19 6 3	17 3 1	21 5 6	20 5 6	15 3 1	13 1 8
Average for the season	10 4 9	9 6 0	15 8 4	13 7 6	15 2 2	14 2 7	11 0 5	9 5 8

The above rates include canal tolls, as follows:

On wheat, per bushel, from Buffalo to Troy	06 2 1
On corn, per bushel, from Buffalo to Troy	04 8 8
On wheat, per bushel, from Oswego to Troy	03 5 4
On corn, per bushel, from Oswego to Troy	02 7 5

Highest rate, lake freight, from Chicago to Buffalo	17c.	wheat
Highest rate, lake freight, from Chicago to Oswego	22⅛c.	wheat.
Highest rate, canal freight, from Buffalo to New York	24¼c.	wheat.
Highest rate, canal freight, from Oswego to New York	18c.	wheat.

STATEMENT showing the average rate of lake freight on wheat and corn between Chicago, Buffalo and Oswego; also the average rate of canal freight on the same articles between Buffalo, Oswego and New York, for each month during the season of canal navigation, 1863.

PERIOD.	From Chicago to Buffalo.		From Buffalo to New York.		From Chicago to Oswego.		From Oswego to New York.	
	Wheat per bushel 60 lbs.	Corn per bushel 56 lbs.	Wheat per bushel 60 lbs.	Corn per bushel 56 lbs.	Wheat per bushel 60 lbs.	Corn per bushel 56 lbs.	Wheat per bushel 60 lbs.	Corn per bushel 56 lbs.
	c. m. f.	c. m. f.	c. m. f.	c. m. f.	c. m. f.	c. m. f.	c. m. f.	c. m. f.
May	8 7 6	7 8 3	14 6 9	12 6 9	14 3 1	13 3 1	9 7 3	8. 2 1
June	10 0 5	9 0 5	14 3 3	12 3 3	14 9 3	13 8 1	9 3 7	7 8 7
July	5 7 7	4 9 5	14 6 9	12 6 9	9 9 3	8 8 7	9 9 2	8 4 2
August	4 7 5	4 2 5	13 9 3	11 9 3	8 0 6	6 6 8	9 6 9	8 2 6
September	5 7 5	4 7 5	14 0 8	12 0 8	9 6 2	8 6 2	10 0 9	8 6 6
October	8 4 8	7 2 9	16 4 4	14 4 4	13 2 4	11 7 0	11 3 9	9 7 0
November	9 0 4	7 7 8	19 6 1	17 6 1	12 1 1	11 1 1	15 9 9	14 4 7
Average for the season	7 5 1	6 5 6	15 3 9	13 3 9	11 7 4	10 5 9	10 8 9	9 3 7

The above rates include canal tolls, as follows:

On wheat, per bushel, from Buffalo to Troy	06 2 1
On corn, per bushel, from Buffalo to Troy	04 8 8
On wheat, per bushel, from Oswego to Troy	03 5 4
On corn, per bushel, from Oswego to Troy	02 7 5

Highest rate, lake freight, from Chicago to Buffalo	12½c.	wheat.
Highest rate, lake freight, from Chicago to Oswego	17c.	wheat.
Highest rate, canal freight, from Buffalo to New York	25c.	wheat.
Highest rate, canal freight, from Oswego to New York	18c.	wheat.

STATEMENT showing the average rate of lake freight on wheat and corn between Chicago, Buffalo and Oswego; also the average rate of canal freight on the same articles between Buffalo, Oswego and New York, for each month during the season of canal navigation, 1864.

PERIOD.	From Chicago to Buffalo.		From Buffalo to New York.		From Chicago to Oswego.		From Oswego to New York.	
	Wheat per bushel 60 lbs.	Corn per bushel 56 lbs.	Wheat per bushel 60 lbs.	Corn per bushel 56 lbs.	Wheat per bushel 60 lbs	Corn per bushel 56 lbs.	Wheat per bushel 60 lbs.	Corn per bushel 56 lbs.
	c. m. f.	c. m. f.	c. m. f.	c. m. f.	c. m. f.	c. m. f.	c. m. f.	c. m. f.
May	8 5 6	8 0 6	16 8 8	14 8 7	13 9 4	12 9 4	11 2 5	10 0 0
June	13 4 4	12 5 6	18 1 9	16 2 5	18 8 8	17 2 5	11 1 3	10 0 0
July	6 8 1	6 3 2	19 0 0	16 9 4	12 6 3	12 0 0	14 0 0	12 4 4
August	8 2 5	7 7 5	21 3 1	18 8 1	14 3 1	13 3 1	14 1 9	12 6 3
September	8 0 0	7 5 0	18 4 4	16 3 8	14 5 0	13 5 0	13 5 0	11 9 4
October	8 2 5	7 6 2	18 7 5	16 1 9	14 6 3	13 6 3	12 6 9	11 0 6
November	13 7 5	12 7 5	18 9 2	16 4 2	18 6 7	17 3 4	14 8 7	13 3 1
Average for the season	9 5 8	8 9 4	18 7 8	16 5 5	15 3 7	14 2 8	13 0 9	11 6 2

The above rates include canal tolls, as follows:

On wheat, per bushel, from Buffalo to Troy	06 2 1	Highest rate, lake freight, from Chicago to Buffalo	18c. wheat.
On corn, per bushel, from Buffalo to Troy	04 8 3	Highest rate, lake freight, from Chicago to Oswego	24c. wheat.
On wheat, per bushel, from Oswego to Troy	03 5 8	Highest rate, canal freight, from Buffalo to New York	22c. wheat.
On corn, per bushel, from Oswego to Troy	02 7 5	Highest rate, canal freight, from Oswego to New York	18c. wheat.

STATEMENT showing the average rate of lake freight on wheat and corn between Chicago, Buffalo and Oswego; also the average rate of canal freight on the same articles between Buffalo, Oswego and New York, for each month during the season of canal navigation, 1865.

PERIOD.	From Chicago to Buffalo.		From Buffalo to New York.		From Chicago to Oswego.		From Oswego to New York.	
	Wheat per bushel 60 lbs.	Corn per bushel 56 lbs.	Wheat per bushel 60 lbs.	Corn per bushel 56 lbs.	Wheat per bushel 60 lbs.	Corn per bushel 56 lbs.	Wheat per bushel 60 lbs.	Corn per bushel 56 lbs.
	c. m. f.	c. m. f.	c. m. f.	c. m. f.	c. m. f.	c. m. f.	c. m. f.	c. m. f.
April	......	......	......	......	......	......	......	......
May	7 3 1	6 7 5	14 7 5	12 7 5	11 0 0	10 1 3	12 2 5	10 7 5
June	6 6 3	6 0 0	13 6 9	11 6 9	9 7 5	9 1 3	9 4 4	8 4 4
July	8 3 7	7 9 4	14 4 4	12 4 4	12 7 5	12 1 3	9 8 1	8 6 9
August	7 1 9	6 6 9	14 5 0	12 5 0	11 8 1	11 1 9	9 8 8	8 6 3
September	11 6 3	10 7 5	15 6 9	13 6 9	17 8 8	16 8 1	11 1 9	9 8 1
October	14 9 4	13 8 8	21 7 5	19 2 5	24 0 0	22 3 4	15 8 1	14 3 1
November	12 3 7	11 5 0	23 1 0	20 3 7	17 2 5	16 0 8	17 8 1	16 3 7
Average for the season	9 7 8	9 0 7	16 8 4	14 6 7	14 9 2	13 9 7	12 3 1	11 0 0

The above rates include canal tolls, as follows:

On wheat, per bushel, from Buffalo to Troy	06 2 1	Highest rate, lake freight, from Chicago to Buffalo	19c. wheat.
On corn, per bushel, from Buffalo to Troy	04 8 8	Highest rate, lake freight, from Chicago to Oswego	27c. wheat.
On wheat, per bushel, from Oswego to Troy	03 5 4	Highest rate, canal freight, from Buffalo to New York	26c. wheat.
On corn, per bushel, from Oswego to Troy	02 7 5	Highest rate, canal freight, from Oswego to New York	18c. wheat.

STATEMENT showing the average rate of lake freight on wheat and corn between Chicago, Buffalo and Oswego; also the average rate of canal freight on the same articles between Buffalo, Oswego and New York, for each month during the season of canal navigation, 1866.

PERIOD.	From Chicago to Buffalo.		From Buffalo to New York.		From Chicago to Oswego.		From Oswego to New York.	
	Wheat per bushel 60 lbs.	Corn per bushel 56 lbs.	Wheat per bushel 60 lbs.	Corn per bushel 56 lbs.	Wheat per bushel 60 lbs.	Corn per bushel 56 lbs.	Wheat per bushel 60 lbs.	Corn per bushel 56 lbs.
	c. m. f.	c. m. f.	c. m. f.	c. m. f.	c. m. f.	c. m. f.	c. m. f.	c. m. f.
April	......	......	......	......	......	......	......	......
May	12 5 0	11 1 9	13 6 3	11 6 3	18 1 3	16 7 5	9 7 5	8 2 5
June	15 6 3	13 6 2	16 6 2	14 3 7	21 1 2	19 5 0	10 6 3	9 1 3
July	11 6 3	9 6 3	17 8 2	14 8 8	17 1 3	14 7 5	12 1 8	10 6 8
August	10 3 7	8 4 4	15 7 5	13 3 1	15 2 5	13 6 3	10 2 5	8 7 5
September	12 7 5	10 3 7	17 5 0	14 6 3	19 7 5	18 0 0	11 0 0	9 5 0
October	17 4 4	15 2 5	17 7 5	14 8 7	25 4 4	23 5 0	13 0 0	11 3 8
November	13 5 0	11 7 5	19 6 9	16 3 8	20 2 5	18 8 3	16 2 5	14 1 2
Average for the season	13 4 0	11 4 7	16 9 6	14 3 0	19 5 8	17 8 5	11 8 7	10 2 6

The above rates include canal tolls as follows:

On wheat, per bushel, from Buffalo to Troy	06 2 1
On corn, per bushel, from Buffalo to Troy	04 8 3
On wheat, per bushel, from Oswego to Troy	03 5 4
On corn, per bushel, from Oswego to Troy	02 7 5

Highest rate, lake freight, from Chicago to Buffalo	28c. wheat.
Highest rate, lake freight, from Chicago to Oswego	30c. wheat.
Highest rate, canal freight, from Buffalo to New York	23c. wheat.
Highest rate, canal freight, from Oswego to New York	20c. wheat.

STATEMENT showing the average rate of lake freight on wheat and corn between Chicago, Buffalo and Oswego; also the average rate of canal freight on the same articles between Buffalo, Oswego and New York, for each month during the season of canal navigation, 1867.

PERIOD.	From Chicago to Buffalo.		From Buffalo to New York.		From Chicago to Oswego.		From Oswego to New York.	
	Wheat per bushel 60 lbs.	Corn per bushel 56 lbs.	Wheat per bushel 60 lbs.	Corn per bushel 56 lbs.	Wheat per bushe 60 lbs.	Corn per bushel 56 lbs.	Wheat per bushel 60 lbs.	Corn per bushel 56 lbs.
	c. m. f.	c. m. f.	c. m. f.	c. m. f.	c. m. f	c. m. f.	c. m. f.	c. m. f.
May	5 5 0	4 2 5	12 3 3	10 3 3	9 8 8	8 5 0	9 9·4	8 3 8
June	5 5 0	3 7 5	13 2 5	11 2 5	7 2 5	6 1 2	8 8 1	7 4 3
July	4 7 5	3 8 8	13 8 8	11 8 8	8 0 7	6 7 5	9 8 8	8 3·8
August	5 5 0	4 1 8	13 7 5	11 7 5	9 2 5	8 1 3	9 8 7	8 2 5
September	8 1 3	7 0 0	16 3 1	13 4 4	13 6 9	12 5 0	11 1 3	9 1 8
October	9 3 1	7 9 3	21 1 9	18 1 9	15 6 9	14 1 3	15 3 0	12 9 4
November	8 0 0	7 0 0	19 1 3	16 3 8	12 2 5	11 1 7	15 3 8	13 6· 3
Average for the season	6 6 7	5 4 3	15 6 9	13 3 2	10 8 7	9 6 2	11 4 8	9 7 4

The above rates include canal tolls, as follows:

On wheat, per bushel, from Buffalo to Troy	06 2 1	Highest rate, lake freight, from Chicago to Buffalo	15c.	wheat.
On corn, per bushel, from Buffalo to Troy	04 8 8	Highest rate, lake freight, from Chicago to Oswego	18½c.	wheat.
On wheat, per bushel, from Oswego to Troy	03 5 4	Highest rate, canal freight, from Buffalo to New York	25c.	wheat.
Oswego to Troy	02 7 5	Highest rate, canal freight, from Oswego to New York	17c.	wheat.

STATEMENT showing the average rate of lake freight on wheat and corn between Chicago, Buffalo and Oswego; also the average rate of canal freight on the same articles between Buffalo, Oswego and New York, for each month during the season of canal navigation, 1868.

PERIOD.	From Chicago to Buffalo.		From Buffalo to New York.		From Chicago to Oswego.		From Oswego to New York.	
	Wheat per bushel 60 lbs.	Corn per bushel 56 lbs.	Wheat per bushel 60 lbs.	Corn per bushel 56 lbs.	Wheat per bushel 60 lbs.	Corn per bushel 56 lbs.	Wheat per bushel 60 lbs.	Corn per bushel 56 lbs.
	c. m. f.	c. m. f.	c. m. f.	c. m. f.	c. m. f.	c. m. f.	c. m. f.	c. m. f.
May	5 2 5	4 0 6	14 5 6	11 8 1	9 6 3	8 8 7	9 7 5	8 2 5
June	5 3 1	4 2 5	13 5 7	11 0 7	9 2 5	8 1 3	9 5 0	8 0 0
July	4 2 5	3 6 3	13 7 5	11 2 5	8 6 3	7 5 0	9 5 0	8 0 0
August	7 8 1	6 6 2	14 1 3	11 6 3	11 4 3	10 4 3	9 5 0	8 0 0
September	9 1 9	7 7 5	16 2 5	13 6 8	14 8 7	13 6 2	11 7 5	10 2 5
October	8 8 1	7 7 5	18 0 0	15 3 7	14 4 3	13 3 1	13 4 3	11 8 1
November	9 3 1	8 3 1	19 2 5	16 2 5	13 3 4	12 1 7	15 0 8	13 3 4
Average for the season	7 1 4	6 0 5	15 6 5	13 0 1	11 6 5	10 5 8	11 2 2	9 6 7

The above rates include canal tolls, as follows:

On wheat, per bushel, from Buffalo to Troy	06 2 1
On corn, per bushel, from Buffalo to Troy	04 8 3
On wheat, per bushel, from Oswego to Troy	03 5 4
On corn, per bushel, from Oswego to Troy	02 7 5

Highest rate, lake freight, from Chicago to Buffalo	18½c.	wheat.
Highest rate, lake freight, from Chicago to Oswego	16c.	wheat.
Highest rate, canal freight, from Buffalo to New York	24c.	wheat.
Highest rate, canal freight, from Oswego to New York	17c.	wheat.

STATEMENT showing the average rate of lake freight on wheat and corn between Chicago, Buffalo and Oswego; also the average rate of canal freight on the same articles between Buffalo, Oswego and New York, for each month during the season of canal navigation, 1869.

PERIOD.	From Chicago to Buffalo.						From Buffalo to New York.						From Chicago to Oswego.						From Oswego to New York.					
	Wheat per bushel 60 lbs.			Corn per bushel 56 lbs.			Wheat per bushel 60 lbs.			Corn per bushel 56 lbs.			Wheat per bushel 60 lbs.			Corn per bushel 56 lbs.			Wheat per bushel 60 lbs.			Corn per bushel 56 lbs.		
	c.	m.	f.	c.	m.	f.	c.	m.	f.	c.	m.	f.	c.	m.	f.	c.	m.	f.	c.	m.	f.	c.	m.	f.
May	5	8	3	5	5	0	13	7	5	11	6	2	10	0	0	9	6	7	9	2	5	8	0	0
June	7	5	0	7	1	9	13	6	9	11	6	9	12	2	5	11	5	0	8	5	6	7	5	0
July	4	7	5	4	3	8	12	9	4	10	9	4	8	9	4	8	4	4	8	7	5	7	7	5
August	5	2	5	4	6	2	13	7	5	11	7	5	9	5	0	8	8	8	9	0	6	8	0	6
September	6	5	6	6	0	0	16	0	0	13	7	5	10	4	4	9	8	1	11	1	3	9	7	5
October	7	5	6	7	0	6	21	6	9	18	4	4	12	6	3	11	8	1	18	7	5	16	3	8
November	10	2	5	9	1	7	22	3	4	18	8	4	15	5	0	14	0	0	17	1	9	14	6	9
Average for the season	6	8	1	6	2	7	16	3	1	13	8	6	11	3	2	10	5	9	11	8	1	10	3	0

The above rates include canal tolls, as follows:

On wheat, per bushel, from Buffalo to Troy	06 2 1
On corn per bushel, from Buffalo to Troy, to September 19th	04 8 8
On corn, per bushel, from Buffalo to Troy, from September 20th	03 8 6
On wheat, per bushel, from Oswego to Troy	03 5 4
On corn, per bushel, from Oswego to Troy, to September 19th	02 7 5
On corn, per bushel, from Oswego to Troy, from September 20th	02 2 0

Highest rate, lake freight, from Chicago to Buffalo	12c.	wheat.
Highest rate, lake freight from Chicago to Oswego	16½c.	wheat.
Highest rate, canal freight, from Buffalo to New York	25c.	wheat.
Highest rate, canal freight, from Oswego to New York	20c.	wheat.

STATEMENT showing the average rate of lake freight on wheat and corn between Chicago, Buffalo and Oswego; also the average rate of canal freight on the same articles between Buffalo, Oswego and New York, for each month during the season of canal navigation, 1870.

PERIOD.	From Chicago to Buffalo.		From Buffalo to New York.		From Chicago to Oswego.		From Oswego to New York.	
	Wheat per bushel 60 lbs.	Corn per bushel 56 lbs.	Wheat per bushel 60 lbs.	Corn per bushel 56 lbs.	Wheat per bushel 60 lbs.	Corn per bushel 56 lbs.	Wheat per bushel 60 lbs.	Corn per bushel 56 lbs.
	c. m. f.	c. m. f.	c. m. f.	c. m. f.	c. m. f.	c. m. f.	c. m. f.	c. m. f.
May	4 8 9	4 6 3	11 5 6	10 7 5	9 0 0	8 3 1	8 2 5	7 7 5
June	5 8 8	5 3 1	10 6 9	10 0 0	10 1 9	9 7 5	7 4 4	6 9 4
July	5 1 3	4 6 3	10 3 1	9 5 6	9 1 9	8 6 3	7 2 5	6 7 5
August	5 0 6	4 6 3	10 0 0	9 3 1	9 5 0	9 1 3	7 2 5	6 7 5
September	4 7 5	4 3 1	10 6 9	9 9 4	9 0 0	8 5 0	7 6 3	7 1 3
October	7 3 1	6 8 8	13 3 1	12 4 4	12 3 8	11 4 4	9 4 4	8 8 1
November	8 1 3	7 6 3	12 0 0	10 4 1	12 5 0	11 6 3	10 0 6	9 4 3
Average for the season	5 8 8	5 4 3	11 2 2	10 3 5	10 2 5	9 6 2	8 1 9	7 6 5

The above rates include canal tolls, as follows:

On wheat, per bushel, from Buffalo to Troy	08 1 0
On corn, per bushel, from Buffalo to Troy	08 0 0
On wheat, per bushel, from Oswego to Troy	01 7 7
On corn, per bushel, from Oswego to Troy	01 6 5

Highest rate, lake freight, from Chicago to Buffalo	10c. wheat.
Highest rate, lake freight, from Chicago to Oswego	15c. wheat.
Highest rate, canal freight, from Buffalo to New York	16c. wheat.
Highest rate, canal freight, from Oswego to New York	12c. wheat.

STATEMENT showing the average rate of lake freight on wheat and corn between Chicago, Buffalo and Oswego; also the average rate of canal freight on the same articles between Buffalo, Oswego and New York, for each month during the season of canal navigation, 1871.

PERIOD.	From Chicago to Buffalo.		From Buffalo to New York.		From Chicago to Oswego.		From Oswego to New York.	
	Wheat per bushel 60 lbs.	Corn per bushel 56 lbs.	Wheat per bushel 60 lbs.	Corn per bushel 56 lbs.	Wheat per bushel 60 lbs.	Corn per bushel 56 lbs.	Wheat per bushel 60 lbs.	Corn per bushel 56 lbs.
	c. m. f.	c. m. f.	c. m. f.	c. m. f.	c. m. f.	c. m. f.	c. m. f.	c. m. f.
May	4 5 0	4 0 6	11 6 2	10 6 2	9 7 5	9 1 2	7 1 2	6 6 2
June	5 6 9	5 3 2	10 2 0	9 2 0	9 0 0	8 5 0	7 2 0	6 6 9
July	5 0 6	4 5 0	11 1 2	10 1 2	9 1 2	8 5 0	7 3 7	6 8 7
August	6 0 7	5 5 6	11 7 5	10 7 5	10 5 0	9 7 5	8 0 7	7 5 7
September	9 2 5	8 6 9	13 6 2	12 6 3	14 9 4	14 0 0	9 3 1	8 8 1
October	13 3 1	12 3 7	13 9 4	12 9 4	18 2 5	17 0 6	11 0 6	10 3 8
November	9 5 0	8 9 2	16 0 6	14 5 0	14 8 4	13 8 4	12 3 1	11 5 0
Average for the season	7 6 2	7 0 6	12 6 2	11 5 4	12 3 5	11 5 4	8 9 2	8 3 5

The above rates include canal tolls, as follows:

On wheat, per bushel, from Buffalo to Troy	08 1 0
On corn, per bushel, from Buffalo to Troy	08 0 0
On wheat, per bushel, from Oswego to Troy	01 7 7
On corn, per bushel, from Oswego to Troy	01 6 5

Highest rate, lake freight, from Chicago to Buffalo	18c. wheat.
Highest rate, lake freight, from Chicago to Oswego	20c. wheat.
Highest rate, canal freight, from Buffalo to New York	17c. wheat.
Highest rate, canal freight, from Oswego to New York	14c. wheat.

STATEMENT showing the average rate of lake freight on wheat and corn between Chicago, Buffalo, and Oswego; also the average rate of canal freight on the same articles between Buffalo, Oswego and New York, for each month during the season of canal navigation, 1872.

PERIOD.	From Chicago to Buffalo.		From Buffalo to New York.		From Chicago to Oswego.		From Oswego to New York.	
	Wheat per bushel 60 lbs.	Corn per bushel 56 lbs.	Wheat per bushel 60 lbs.	Corn per bushel 56 lbs.	Wheat per bushel 60 lbs.	Corn per bushel 56 lbs.	Wheat per bushel 60 lbs.	Corn per bushel 56 lbs.
	c. m. f.	c. m. f.	c. m. f.	c. m. f.	c. m. f.	c. m. f.	c. m. f.	c. m. f.
May	8 3 7	7 8 3	9 8 7	9 0 0	13 8 7	13 3 7	7 0 7	6 2 5
June	8 3 7	7 6 2	12 3 7	11 0 6	14 2 5	13 5 0	7 0 6	6 5 0
July	8 8 1	8 0 0	14 5 0	10 5 0	13 1 2	12 5 0	7 6 6	6 9 5
August	9 5 6	8 8 7	12 1 2	11 1 8	13 6 8	10 4 3	8 0 0	7 2 5
September	14 5 6	13 5 0	12 3 1	11 1 2	14 9 3	14 2 5	8 4 7	7 7 5
October	16 5 6	15 5 0	14 5 6	12 8 7	17 6 8	16 8 1	10 5 1	9 5 0
November	11 8 1	10 8 1	16 0 0	14 0 0	16 0 0	14 6 2	12 0 0	11 0 0
Average for the season	11 1 5	10 3 0	13 1 0	11 3 9	14 7 9	13 6 4	8 6 8	7 8 8

The above rates include canal tolls, as follows:

On wheat, per bushel, from Buffalo to Troy	08 1 0
On corn, per bushel, from Buffalo to Troy	08 0 0
On wheat, per bushel, from Oswego to Troy	01 7 7
On corn, per bushel, from Oswego to Troy	01 6 5

Highest rate, lake freight, from Chicago to Buffalo	18c. wheat.
Highest rate, lake freight, from Chicago to Oswego	20c. wheat.
Highest rate, canal freight, from Buffalo to New York	17c. wheat.
Highest rate, canal freight, from Oswego to New York	14c. wheat.

STATEMENT showing the average rate of lake freight on wheat and corn between Chicago, Buffalo and Oswego; also the average rate of canal freight on the same articles between Buffalo, Oswego and New York, for each month during the season of canal navigation, 1873.

PERIOD.	From Chicago to Buffalo.		From Buffalo to New York.		From Chicago to Oswego.		From Oswego to New York.	
	Wheat per bushel 60 lbs.	Corn per bushel 56 lbs.	Wheat per bushel 60 lbs.	Corn per bushel 56 lbs.	Wheat per bushel 60 lbs.	Corn per bushel 56 lbs.	Wheat per bushel 60 lbs.	Corn per bushel 56 lbs.
	c. m. f.	c. m. f.	c. m. f.	c. m. f.	c. m. f.	c. m. f.	c. m. f.	c. m. f.
May	6 4 5	5 5 0	12 0 0	10 8 0	13 0 0	12 1 5	8 2 5	7 5 0
June	6 2 4	5 8 5	10 5 0	9 5 0	11 8 0	11 0 0	7 6 4	7 1 8
July	6 1 2	5 4 8	10 5 0	9 5 0	11 1 2	10 5 5	7 2 5	6 7 5
August	6 1 2	5 5 2	10 6 0	9 6 0	12 7 5	11 7 2	7 3 1	6 7 5
September	13 0 7	11 7 8	12 2 0	10 4 0	20 7 2	14 0 0	7 7 5	7 1 3
October	7 8 7	7 0 1	12 6 0	11 1 0	15 0 0	13 6 2	8 5 0	7 2 5
November	7 5 0	7 2 7	12 6 0	11 1 0	15 0 0	12 3 7	9 3 5	7 4 3
Average for the season	7 6 2	7 2 0	11 5 7	10 2 8	14 2 0	12 2 0	8 0 1	7 1 4

The above rates include canal tolls, as follows:

On wheat, per bushel, from Buffalo to Troy	08 1 0	Highest rate, lake freight, from Chicago to Buffalo	18c. wheat.
On corn, per bushel, from Buffalo to Troy	08 0 0	Highest rate, lake freight, from Chicago to Oswego.	20c. wheat.
On wheat, per bushel, from Oswego to Troy	01 7 7	Highest rate, canal freight, from Buffalo to New York	18c. wheat.
On corn, per bushel, from Oswego to Troy	01 6 5	Highest rate, canal freight, from Oswego to New York	9c. wheat.

STATEMENT showing the average rate of lake freight on wheat and corn between Chicago, Buffalo and Oswego; also the average rate of canal freight on the same articles between Buffalo, Oswego and New York, for each month during the season of canal navigation, 1874.

PERIOD.	From Chicago to Buffalo.		From Buffalo to New York.		From Chicago to Oswego.		From Oswego to New York.	
	Wheat per bushel 60 lbs.	Corn per bushel 56 lbs.	Wheat per bushel 60 lbs.	Corn per bushel 56 lbs.	Wheat per bushel 60 lbs.	Corn per bushel 56 lbs.	Wheat per bushel 60 lbs.	Corn per bushel 56 lbs.
	c. m. f.	c. m. f.	c. m. f.	c. m. f.	c. m. f.	c. m. f.	c. m. f.	c. m. f.
May	4 4 1	4 0 8	11 8 8	10 8 8	8 5 1	7 7 3	7 9 2	7 3 9
June	4 7 8	4 0 6	11 3 0	10 3 0	8 4 7	7 6 9	7 8 8	7 1 2
July	3 8 8	3 5 2	9 6 4	8 4 2	7 3 8	6 8 9	7 1 1	6 3 0
August	3 1 1	2 7 4	9 0 4	8 0 4	6 5 0	6 0 0	6 7 5	6 0 0
September	3 5 2	3 2 3	9 5 5	8 5 5	6 8 8	4 8 1	6 8 9	6 0 9
October	4 0 4	3 8 1	9 5 5	8 5 6	7 6 0	6 6 9	6 8 8	6 3 3
November	4 4 5	4 2 3	9 8 0	9 0 0	7 6 7	6 5 0	7 8 0	7 3 0
Average for the season	4 0 3	3 6 7	10 1 1	9 1 1	7 5 7	6 6 2	7 3 2	6 6 5

The above rates include canal tolls, as follows:

On wheat, per bushel, from Buffalo to Troy	03 1 0
On corn, per bushel, from Buffalo to Troy	03 0 0
On wheat, per bushel, from Oswego to Troy	01 7 7
On corn, per bushel, from Oswego to Troy	01 6 5

Highest rate, lake freight, from Chicago to Buffalo	6⅛c. wheat.
Highest rate, lake freight, from Chicago to Oswego	11½c. wheat.
Highest rate, canal freight, from Buffalo to New York	11⅛c. wheat.
Highest rate, canal freight, from Oswego to New York	7⅛c. wheat.

STATEMENT showing the average rate of lake freight on wheat and corn between Chicago, Buffalo and Oswego; also the average rate of canal freight on the same articles between Buffalo, Oswego and New York, for each month during the season of canal navigation, 1875.

PERIOD.	From Chicago to Buffalo.		From Buffalo to New York.		From Chicago to Oswego.		From Oswego to New York.	
	Wheat per bushel 60 lbs.	Corn per bushel 56 lbs.	Wheat per bushel 60 lbs.	Corn per bushel 56 lbs.	Wheat per bushel 60 lbs.	Corn per bushel 56 lbs.	Wheat per bushel 60 lbs.	Corn per bushel 56 lbs.
	c. m. f.	c. m. f.	c. m. f.	c. m. f.	c. m. f.	c. m. f.	c. m. f.	c. m. f.
May	3 8 1	3 5 0	7 5 3	6 7 8	7 5 0	7 0 0	5 8 7	5 9 0
June	3 2 2	2 8 2	6 9 2	6 2 7	7 1 2	6 6 2	5 5 0	5 0 0
July	2 6 4	2 4 2	7 5 2	6 8 1	6 0 9	5 8 0	5 5 0	5 0 0
August	2 6 0	2 3 3	8 2 5	7 5 0	5 5 6	5 0 0	6 0 0	5 3 7
September	2 6 2	2 2 2	7 1 0	6 5 4	6 0 0	5 0 0	5 5 0	5 0 0
October	3 4 8	3 2 1	8 1 1	7 4 3	6 0 6	5 7 2	6 3 0	5 8 0
November	5 5 4	5 0 9	10 6 2	9 2 5	9 0 0	8 2 5	7 9 1	7 4 1
Average for the season	3 4 2	3 0 8	8 0 1	7 2 3	6 7 6	6 2 0	6 0 8	5 6 4

The above rates include canal tolls, as follows:

On wheat, per bushel, from Buffalo to Troy	02 0 7
On corn, per bushel, from Buffalo to Troy	01 9 8
On wheat, per bushel, from Oswego to Troy	01 1 8
On corn, per bushel, from Oswego to Troy	01 1 0

Highest rate, lake freight, from Chicago to Buffalo	6⅛c. wheat.
Highest rate, lake freight, from Chicago to Oswego	10c. wheat.
Highest rate, canal freight, from Buffalo to New York	11c. wheat.
Highest rate, canal freight, from Oswego to New York	9¾c. wheat.

STATEMENT showing the average rate of lake freight on wheat and corn between Chicago, Buffalo and Oswego; also the average rate of canal freight on the same articles between Buffalo, Oswego and New York, for each week during the season of canal navigation, 1876.

PERIOD.	From Chicago to Buffalo.		From Buffalo to New York.		From Chicago to Oswego.		From Oswego to New York.		Railroad from Buffalo to New York.	
	Wheat per bushel 60 lbs.	Corn per bushel 56 lbs.	Wheat per bushel 60 lbs.	Corn per bushel 56 lbs.	Wheat per bushel 60 lbs.	Corn per bushel 56 lbs.	Wheat per bushel 60 lbs.	Corn per bushel 56 lbs.	Wheat.	Corn.
	c. m. f.	c. m. f.	c. m. f.	c. m. f.	c. m. f.	c. m. f.	c. m. f.	c. m. f.	c. m. f.	c. m. f.
First week in May ..	3 9 4	3 3 1	8 0 0	7 0 0	7 2 5	.....	6 4 0	5 9 0	8 0 0	7 0 0
Second " ..	3 8 4	3 3 7	7 0 0	6 2 5	.....	.....	5 8 4	5 3 4	7 0 0	6 0 0
Third " ..	2 7 1	2 7 5	6 2 8	5 9 4	.....	.....	5 5 0	5 0 0	7 0 0	6 0 0
Fourth " ..	2 5 0	2 2 5	6 3 6	5 5 0	....	.....	5 5 0	5 0 0	7 0 0	6 0 0
First week in June ..	2 6 9	2 5 0	6 2 5	5 5 0	.....	5 1 6	5 5 0	5 0 0	6 5 0	6 0 0
Second " ..	2 5 0	2 4 0	6 6 0	5 6 5	5 6 2	5 4 0	5 5 0	5 0 0	6 5 0	6 0 0
Third " ..	2 9 1	2 5 2	6 3 0	5 3 0	6 5 0	5 8 7	5 5 0	5 0 0	6 0 0	5 5 0
Fourth " ..	2 5 4	2 2 5	5 8 3	5 2 2	.....	6 5 0	5 2 5	4 7 5	6 0 0	5 5 0
First week in July ..	2 0 0	2 0 0	6 2 5	5 7 1	5 0 0	.....	5 0 0	4 5 0	6 0 0	5 5 0
Second " ..	2 1 2	1 7 5	6 1 9	5 5 8	5 0 0	.....	5 0 0	4 5 0	6 0 0	5 5 0
Third " ..	.....	1 5 0	5 7 5	5 2 5	4 7 5	4 3 7	5 0 0	4 5 0	6 0 0	5 5 0
Fourth " ..	.....	1 5 0	5 6 2	5 1 2	5 0 0	.....	5 0 0	4 5 0	6 0 0	5 5 0
First week in Aug ..	.....	1 5 0	5 6 2	5 1 2	5 5 0	.....	5 0 0	4 5 0	6 0 0	5 5 0
Second " ..	.....	1 5 0	5 6 2	5 1 2	5 2 5	2 0 0	5 0 0	4 5 0	6 0 0	5 5 0
Third " ..	.....	1 5 0	5 6 2	5 1 2	5 2 5	.....	5 0 0	4 5 0	6 0 0	5 5 0
Fourth " ..	.....	1 8 0	5 8 1	5 3 1	5 3 8	5 5 0	5 0 0	4 5 0	6 0 0	5 5 0
First week in Sept. ..	.....	2 2 9	6 0 0	5 2 5	5 7 5	5 2 5	5 0 0	4 5 0	6 0 0	5 5 0
Second " ..	2 7 5	2 3 7	6 0 0	5 3 3	5 7 5	5 2 5	5 0 0	4 5 0	6 0 0	5 5 0
Third " ..	2 7 5	2 5 0	6 3 3	5 8 1	5 7 5	5 2 5	5 0 0	4 5 0	6 0 0	5 5 0
Fourth " ..	2 7 5	2 5 0	6 6 2	6 2 5	5 7 5	5 2 5	5 0 0	4 5 0	6 0 0	5 5 0

STATEMENT showing the average rate of lake freight, etc., 1876 — (Continued).

PERIOD.	From Chicago to Buffalo.		From Buffalo to New York.		From Chicago to Oswego.		From Oswego to New York.		Railroad from Buffalo to New York.	
	Wheat per bushel 60 lbs.	Corn per bushel 56 lbs.	Wheat per bushel 60 lbs.	Corn per bushel 56 lbs.	Wheat per bushel 60 lbs.	Corn per bushel 56 lbs.	Wheat per bushel 60 lbs.	Corn per bushel 56 lbs.	Wheat.	Corn.
	c. m. f.	c. m. f.	c. m. f.	c. m. f.	c. m. f.	c. m. f.	c. m. f.	c. m. f.	c. m. f.	c. m. f.
First week in Oct. ..	4 1 2	2 9 6	6 9 0	6 4 0	6 0 0	6 1 2	5 2 1	4 7 1	6 0 0	5 5 0
Second " ..	4 1 9	3 9 2	7 5 0	7 0 0	7 3 7	6 9 4	5 5 0	5 0 0	6 9 2	6 4 2
Third " ..	4 1 2	4 1 2	8 0 6	7 5 0	.....	.....	6 2 5	5 7 5	7 2 5	6 7 5
Fourth " ..	4 8 3	4 2 5	9 2 1	8 5 2	.....	8 5 0	6 5 6	6 0 0	7 6 0	7 1 0
First week in Nov. ..	4 0 0	3 7 5	9 5 0	9 2 5	.....	.....	8 1 2	7 4 2	8 5 0	8 0 0
Second " ..	.....	3 3 3	7 5 0	6 9 6	.....	.....	6 2 1	6 0 0	8 5 0	8 0 0
Third " ..	3 2 5	3 0 0	6 8 0	6 1 2	.....	7 0 0	5 6 0	5 3 7	8 5 0	8 0 0
Fourth " ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

STATEMENT showing the average rate of lake freight on wheat and corn between Chicago, Buffalo and Oswego; also the average rate of canal freight on the same articles between Buffalo, Oswego and New York, for each month during the season of canal navigation, 1876.

PERIOD.	From Chicago to Buffalo.		From Buffalo to New York.		From Chicago to Oswego.		From Oswego to New York.		Railroad from Buffalo to New York.	
	Wheat per bushel 60 lbs.	Corn per bushel 56 lbs.	Wheat per bushel 60 lbs.	Corn per bushel 56 lbs.	Wheat per bushel 60 lbs.	Corn per bushel 56 lbs.	Wheat per bushel 60 lbs.	Corn per bushel 56 lbs.	Wheat per bushel 60 lbs.	Corn per bushel 56 lbs.
	c. m. f.	c. m. f.	c. m. f.	c. m. f.	c. m. f.	c. m. f.	c. m. f.	c. m. f.	c. m. f.	c. m. f.
May	3 2 5	2 9 2	6 9 1	6 1 7	7 2 5	......	5 8 1	5 3 1	7 2 5	6 2 5
June	2 6 6	2 4 2	6 2 5	5 4 2	6 0 6	5 7 3	5 4 4	4 9 4	6 2 5	5 7 5
July	2 0 6	1 6 9	5 9 5	5 4 2	4 9 4	4 3 7	5 0 0	4 5 0	6 0 0	5 5 0
August	......	1 5 8	5 6 7	5 1 7	5 3 5	3 7 5	5 0 0	4 5 0	6 0 0	5 5 0
September	2 7 5	2 4 2	6 2 4	5 6 6	5 7 5	5 2 5	5 0 0	4 5 0	6 0 0	5 5 0
October	4 3 2	3 8 1	7 9 2	7 3 6	6 6 8	7 1 9	5 8 8	5 3 7	6 9 4	6 4 4
November	3 6 2	3 3 6	7 9 3	7 4 4	......	7 0 0	6 6 4	6 2 6	8 5 0	8 0 0
Average for season,	3 1 1	2 6 0	6 7 2	6 0 9	6 0 1	5 5 5	5 5 4	5 0 5	6 7 1	6 1 3

The above rates include canal tolls, as follows:

On wheat, per bushel, from Buffalo to Troy	02 0 7
On corn, per bushel, from Buffalo to Troy	01 9 8
On wheat, per bushel, from Oswego to Troy	01 1 8
On corn, per bushel, from Oswego to Troy	01 1 0

Highest rate, lake freight, from Chicago to Buffalo	5c. wheat.
Highest rate, lake freight, from Chicago to Oswego	7½c. wheat.
Highest rate, canal freight, from Buffalo to New York	10c. wheat.
Highest rate, canal freight, from Oswego to New York	9c. wheat.

TABLES SHOWING THE COST OF TRANSPORTATION ON THE CANALS.

The following table has been prepared to show the cost of transportation for a series of years on down freight from Buffalo to Albany. It is designed to show the cost of carrying on the canal 216 pounds, or a barrel of flour. The first seven columns show the cost, including tolls; the eighth shows the average for the year; the ninth the tolls; and the tenth the forwarder's charge, or earnings after paying tolls:

Down freight, per bbl., 216 lbs., from Buffalo to Albany.

YEAR.	May.	June.	July.	August.	September.	October.	November.	Average for year.	Tolls deducted.	Leaving freight.
1830	$1 00	$0 99	$0 97	$0 86	$0 99	$1 01	$1 02	$0 98	$0 55	$0 43
1831	1 04	97	91	92	90	97	1 02	96	55	41
1832	1 10	97	90	97	1 00	1 00	1 06	1 00	55	45
1833	91	82	86	83	90	91	91	88	39	49
1834	87	78	78	81	85	85	88	83	35	48
1835	70	65	66	64	64	76	75	68	35	33
1836	80	78	72	72	76	80	80	77	35	42
1837	80	80	82	72	83	77	97	81	35	46
Annual average from 1830 to 1837, 8 years..	$0 90	$0 84	$0 83	$0 81	$0 86	$0 88	$0 92	$0 86	$0 43	$0 43
1838	$0 80	$0 73	$0 71	$0 68	$0 73	$0 70	$0 76	$0 73	$0 35	$0 38
1839	68	67	65	65	78	87	1 00	75	35	41
1840	80	78	74	67	76	80	1 13	81	35	46
1841	75	65	68	63	66	73	85	71	35	36
1842	72	60	60	62	62	63	76	65	35	30
1843	80	60	59	57	58	62	70	60	35	25
1844	75	61	55	56	54	57	65	60	35	25
1845	55	55	54	57	55	53	96	71	35	26
Annual average from 1838 to 1845, 8 years..	$0 73	$0 65	$0 63	$0 62	$0 65	$0 68	$0 85	$0 69	$0 35	$0 34
1846	$0 61	$0 61	$0 53	$0 54	$0 53	$0 58	$1 05	$0 64	$0 31	$0 33
1847	1 12	1 02	67	62	57	66	78	77	31	46
1848	54	51	54	54	52	66	72	58	31	27
1849	51	55	55	52	52	57	71	56	31	25
1850	51	51	53	54	58	59	81	57	31	26
1851	46	46	50	43	46	53	60	49	23	26
1852	47	47	51	47	54	58	68	53	23	30
1853	49	48	48	49	66	74	63	56	23	33
Annual average from 1846 to 1853, 8 years..	$0 59	$0 58	$0 54	$0 52	$0 54	$0 61	$0 74	$0 59	$0 28	$0 31
1854	$0 56	$0 47	$0 51	$0 58	$0 52	$0 48	$0 61	$0 52	$0 23	$0 29
1855	47	58	46	44	51	57	65	52	23	29
1856	64	52	55	52	64	70	64	60	23	37
1857	59	44	45	43	44	50	49	46	23	23
1858	37	34	32	32	32	33	35	34	15	18
1859	27	28	30	28	31	36	37	31	15	16
1860	30	30	31	39	46	50	68	42	15	27
1861	39	32	32	35	49	59	76	46	19	27
Annual average from 1854 to 1861, 8 years..	$0 45	$0 40	$0 40	$0 41	$0 46	$0 50	$0 57	$0 45	$0 19	$0 26

Down freight, etc. — (Continued).

YEAR.	May.	June.	July.	August.	September.	October.	November.	Average for year.	Tolls deducted.	Leaving freight.
1862	$0 40	$0 38	$0 48	$0 46	$0 52	$0 55	$0 60	$0 48	$0 23	$0 25
1863	48	48	43	41	40	48	60	45	23	22
1864	50	56	61	66	56	57	57	47½	23	34½
1865	42	41	45	45	47	67	71	51	23	28
1866	38	51	55	50	54	53	60	52	23	29
1867	37	41	43	42	50	67	58	48	23	25
1868	45	42	42	43	51	54	62	48	23	25
1869	42	42	40	42	51	67	73	51	23	28
1870	34	31	30	29	41	40	36	33	11½	21½
1871	36	31	35	37	44	45	52	40	11½	28½
1872	30	39	47	39	39	47	52	42	11½	30½
1873	38	32	32	33	39	40	40	36	11½	24½
1874	37	35	29	27	29	29	30	31	11½	19½
1875	22	20	22	24	20	24	33	23	7½	15½
1876	20	17	16	15	17	23	23	22	7½	14½
Annual average from 1862 to 1876, 15 years	$0 37	$0 37	$0 39	$0 38	$0 42	$0 48	$0 51	$0 41	$0 18	$0 25

The following table shows the cost of transportation on the canals on up freight from Albany to Buffalo, from 1830 to 1876, inclusive, for each month in the year during the season of navigation; the average cost for the year, the tolls charged upon 100 pounds of freight carried, and the average charges of the carrier. The prices are assumed and understood to cover the whole cost of transit to the shipper or consignee.

It will only be necessary to invite attention to the marked difference between the averages of the first sixteen and the last forty years, embracing the whole period set down in the table.

Up freight, per 100 *lbs., from Albany to Buffalo.*

YEAR.	May.	June.	July.	August.	September	October.	November.	Average for year.	Tolls deducted.	Leaving freight.
1830	$1 00	$1 00	$1 00	$1 00	$1 00	$1 00	$1 00	$1 00	$0 51	$0 49
1831	1 00	1 00	1 00	98	97	99	99	99	51	48
1932	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	51	49
1833	92	70	70	69	69	67	73	74	44	36
1834	82	82	82	82	82	82	82	82	33	49
1835	80	80	80	80	80	80	80	80	33	47
1836	1 05	1 05	1 05	1 05	1 05	1 05	1 05	1 05	33	72
1837	1 05	1 06	1 01	90	84	75	88	93	33	60
Annual average from 1830 to 1837, 8 years	$0 95	$0 94	$0 92	$0 90	$0 90	$0 88	$0 91	$0 92	$0 41	$0 51
1838	$0 85	$0 85	$0 88	$0 85	$0 85	$0 83	$0 88	$0 85	$0 33	$0 52
1839	87	81	76	81	90	90	90	85	33	52
1840	80	80	85	80	85	84	87	83	33	50
1841	68	63	59	47	50	58	81	61	33	28
1842	75	71	61	58	58	60	81	66	33	33
1843	56	55	51	46	51	61	72	56	33	23
1844	77	60	48	48	67	77	80	65	33	32
1845	51	44	48	44	49	47	50	48	33	15
Annual average from 1838 to 1845, 8 years	$0 72	$0 67	$0 64	$0 61	$0 67	$0 70	$0 79	$0 69	$0 33	0 36

Up freight, etc. — (Continued).

YEAR.	May.	June.	July.	August.	September.	October.	November.	Average for year.	Tolls deducted.	Leaving freight.
1846	$0 38	$0 40	$0 41	$0 35	$0 37	$0 40	$0 40	$0 40	$0 24	$0 16
1847	39	39	39	39	39	39	39	39	24	15
1848	39	39	39	39	39	39	39	39	24	15
1849	39	39	39	39	39	39	39	39	24	15
1850	37	35	35	35	36	37	39	36	24	12
1851	31	31	30	30	31	31	32	31	22	9
1852	28	26	25	25	26	26	28	26	15	11
1853	28	28	28	28	28	28	28	28	15	13
Annual average from 1846 to 1853, 8 years.	$0 35	$0 34	$0 34	$0 34	$0 34	$0 35	$0 37	$0 35	$0 22	$0 13
1854	$0 25	$0 25	$0 25	$0 24	$0 24	$0 25	$0 26	$0 25	$0 15	$0 10
1855	26	25	25	25	25	26	27	25	15	11
1856	27	27	26	26	26	27	27	27	15	12
1857	24	24	25	24	24	24	24	24	15	9
1858	19	13	13	12	13	13	15	14	7	7
1859	12	12	12	12	12	12	12	12	3½	8½
1860	12	12	12	12	12	12	12	12	7	5
1861	12	12	12	12	9	11	11	11	7	4
Annual average from 1854 to 1861, 8 years.	$0 20	$0 19	$0 19	$0 18	$0 18	$0 19	$0 19	$0 19	$0 11	$0 08
1862	$0 12	$0 12	$0 12	$0 12	$0 12	$0 13	$0 14	$0 12½	$0 07	$0 05½
1863	12	12	12	12	12	14	13	12½	07	05½
1864	12	12	12	12	14	14	14	13	05¼	07¾
1865	12	12	12	12	14	14	14	12½	05¼	07¾
1866	12	12	12	12	14	14	14	13	05¼	07¾
1867	12	12	12	12	14	14	14	13	05¼	07¾
1868	12	12	12	12	14	14	14	13	05¼	07¾
1869	12	12	12	12	14	14	14	13	05¼	07¾
1870	12	12	12	12	14	14	14	13	05¼	07¾
1871	12	12	12	12	14	14	14	13	05¼	07¾
1872	12	12	12	12	14	14	14	13	05¼	07¾
1873	12	12	12	12	14	14	14	13	05¼	07¾
1874	12	12	12	12	14	14	14	13	05¼	07¾
1875	12	12	12	12	14	14	14	13	05¼	07¾
1876	12	12	12	12	14	14	14	13	05¼	07¾
Annual average from 1862 to 1876, 15 years.	$0 12	$0 12	$0 12	$0 12	$0 14	$0 14	$0 14	$0 13	$0 05¼	$0 07¾

The following table exhibits the averages on up and down freight for the last forty-six years, in periods of four years. The reductions from 1850 to 1853, and from 1853 to 1876 present a very remarkable feature in canal transportation:

PERIOD.	Average charge on up freight per 100 pounds from Albany to Buffalo.			Average charge on down freight, per bbl., 216 lbs., from Buffalo to Albany,		
	Tolls.	Freight	Whole charge.	Tolls.	Freight	Whole charge.
	Cents.	Cents.	Cents.	Cents.	Cents.	Cents.
From 1830 to 1833, inclusive, 4 years	49	45	94	51	44	95
From 1834 to 1837, inclusive, 4 years	33	57	90	35	42	77
From 1838 to 1841, inclusive, 4 years	33	45	78	35	40	75
From 1842 to 1845, inclusive, 4 years	33	26	59	35	27	62
From 1846 to 1849, inclusive, 4 years	24	15	39	31	33	64
From 1850 to 1853, inclusive, 4 years	19	11	30	25	29	54
From 1854 to 1857, inclusive, 4 years	15	10	25	23	29	52
From 1858 to 1861, inclusive, 4 years	6	6	12	16	22	38
From 1862 to 1865, inclusive, 4 years	6	7	13	23	27	50
From 1866 to 1869, inclusive, 4 years	5¼	7¾	13	23	26	49
From 1870 to 1876, inclusive, 7 years	5¼	7¾	13	7½	14½	22
The per cent of reduction from the period ending with 1833 to the period ending with 1849 is.....	51	66	58	37	25	33
The per cent of reduction from the period ending with 1849 to the period ending with 1876 is.....	78	48	67	76	56	66
The per cent of reduction from the period ending with 1833 to the period ending with 1876 is.....	89	83	86	85	67	78

The following table presents the cost of transportation per ton on the canals during the period embraced in the preceding tables on up and down freight, the tolls paid to the State, and the carrier's charge.

TABLE.

YEAR.	UP FREIGHT PER TON FROM ALBANY TO BUFFALO.			DOWN FREIGHT PER TON FROM BUFFALO TO ALBANY.		
	Average per year.	Tolls deducted.	Leaving freight.	Average per year.	Tolls deducted.	Leaving freight.
1830	$20 00	$10 22	$9 78	$9 07	$5 11	$3 96
1831	10 80	10 22	9 58	8 89	5 11	3 78
1832	20 00	10 22	9 78	9 26	5 11	4 15
1833	14 80	8 76	6 04	8 15	3 65	4 50
1834	16 40	6 57	9 83	7 68	3 28	4 40
1835	16 00	6 57	9 43	6 29	3 28	3 01
1836	21 00	6 57	14 43	7 13	3 28	3 85
1837	18 00	6 57	12 03	7 50	3 28	4 22
Annual average from 1830 to 1837, 8 years	$18 82	$8 21	$10 11	$8 00	$4 01	$3 99
1838	$17 80	$6 57	$11 23	$6 76	$3 28	$3 48
1839	17 80	6 57	11 23	6 94	3 28	3 62
1840	16 20	6 57	10 03	7 50	3 28	4 22
1841	12 20	6 57	5 63	6 57	3 28	3 29
1842	13 20	6 57	6 63	6 02	3 28	2 74
1843	11 20	6 57	4 63	5 56	3 28	2 28
1844	13 00	6 57	6 43	5 56	3 28	2 28
1845	9 60	6 57	3 03	6 57	3 28	3 29
Annual average from 1838 to 1845, 8 years	$13 92	$6 57	$7 35	$6 43	$3 28	$3 15
1846	$8 00	$4 80	$3 20	$5 92	$2 92	$3 00
1847	7 80	4 80	3 00	7 13	2 92	4 21
1848	7 80	4 80	3 00	5 37	2 92	2 45
1849	7 80	4 80	3 00	5 18	2 92	2 26
1850	7 20	4 80	2 40	5 48	2 92	2 56
1851	6 20	4 40	1 80	4 71	2 19	2 52
1852	5 20	2 92	2 28	4 90	2 19	2 71
1853	5 60	2 92	2 68	5 18	2 19	2 99
Annual average from 1846 to 1853, 8 years	$6 95	$4 28	$2 67	$5.48	$2 64	$2 84
1854	$5 00	$2 92	$2 08	$4 81	$2 19	$2 62
1855	5 00	3 92	2 08	4 81	2 19	2 62
1856	5 40	2 92	2 48	5 56	2 19	3 37
1857	4 80	2 92	1 88	4 26	2 19	2 07
1858	2 80	1 46	1 34	3 14	1 46	1 68
1859	2 40	0 70	1 70	2 87	1 41	1 46
1860	2 40	1 40	1 00	3 88	1 41	2 47
1861	2 20	1 40	0 80	4 26	1 76	2 50
Annual average from 1854 to 1861, 8 years	$3 75	$2 08	$1 67	$4 20	$1 85	$2 35
1862	$2 50	$1 40	$1 10	$4 42	$2 11	$2 31
1863	2 50	1 40	1 10	4 17	2 11	2 06
1864	2 60	1 05	1 55	5 32	2 11	3 21
1865	2 50	1 05	1 45	4 72	2 11	2 61
1866	2 60	1 05	1 55	4 82	2 11	2 71
1867	2 60	1 05	1 55	4 44	2 11	2 33
1868	2 60	1 05	1 55	4 44	2 11	2 33
1869	2 60	1 05	1 55	4 72	2 11	2 61
1870	2 60	1 05	1 55	3 06	1 05	2 01
1871	2 60	1 05	1 55	3 70	1 05	2 65
1872	2 60	1 05	1 55	3 70	1 05	2 65
1873	2 60	1 05	1 55	3 33	1 05	2 28
1874	2 60	1 05	1 55	2 78	1 05	1 73
1875	2 60	1 05	1 55	2 18	0 70	1 48
1876	2 60	1 05	1 55	2 04	0 70	1 34
Annual average from 1862 to 1876, 15 years	$2 57	$1 10	$1 48	$3 85	$1 57	$2 28
Annual average from 1830 to 1876, 47 years	$8 06	$4 12	$4 29	$5 59	$2 67	$2 92
Average from 1830 to 1833, 4 years	$18 65	$9 85	$8 80	$8 84	$4 74	$4 10
Average from 1834 to 1837, 4 years	18 00	6 57	11 43	7 15	3 28	3 87
Average from 1838 to 1841, 4 years	16 10	6 57	9 53	6 94	3 28	3 65
Average from 1842 to 1845, 4 years	11 75	6 57	5 18	5 93	3 28	2 66
Average from 1846 to 1849, 4 years	7 85	4 80	3 05	5 90	2 92	2 98
Average from 1850 to 1853, 4 years	6 05	3 76	2 29	5 07	2 37	2 70
Average from 1854 to 1857, 4 years	5 05	2 92	2 13	4 86	2 19	2 67
Average from 1858 to 1861, 4 years	2 45	1 24	1 21	3 54	1 51	2 03
Average from 1862 to 1865, 4 years	2 52	1 22	1 30	4 66	2 11	2 55
Average from 1866 to 1869, 4 years	2 60	1 05	1 55	4 61	2 41	2 50
Average from 1870 to 1876, 7 years	2 60	1 05	1 55	2 96	0 95	2 01

The following table has been prepared for the purpose of showing the whole cost of transportation upon the canals for the last forty years, distinguishing between the toll which goes to the State, and the charge over toll which goes to the carrier. The toll on up freight or merchandise has been received each year by the collectors of tolls, and is shown in column No. 1. No. 2 is the amount in each year, after deducting the toll on merchandise from the gross toll, and represents the toll on down freight. No. 3 is the gross toll each year. No. 4 bears the same proportion to No. 1 as the carrier's portion of the "whole charge" on up freight or merchandise bears to the toll in each year, as shown by the preceding table of prices; and so of No. 5. The amount opposite each year in it, bears the same proportion to the amount opposite the corresponding year in No. 2, as the carrier's portion of the whole charge on a barrel of flour in that year bore to the toll in the same year. No. 6 is the carrier's portion each year, and added to No. 3, shows the whole cost of transportation on the business of each year.

YEAR.	TOLLS TO THE STATE.			CHARGE OVER TOLL TO CARRIERS.		
	1. On up freight, merchandise.	2. On down freight, produce.	3. Total.	4. On up freight, merchandise.	5. On down freight, produce.	6. Total.
1837	$380,826	$911,797	$1,292,623	$692,411	$1,198,362	$1,890,773
1838	526,911	1,064,000	1,590,912	830,284	1,155,200	1,985,484
1839	535,486	1,080,896	1,616,382	843,796	1,266,193	2,109,989
1840	427,966	1,347,781	1,775,747	648,433	1,771,369	2,419,802
1841	558,003	1,476,879	2,034,882	473,457	1,519,075	1,992,532
1842	393,875	1,355,321	1,749,196	393,875	1,161,703	1,555,578
1843	502,617	1,578,973	2,081,590	350,309	1,127,838	1,478,147
1844	585,147	1,861,227	2,446,374	567,415	1,329,448	1,896,863
1845	625,900	2,020,281	2,646,181	284,500	1,500,780	1,785,280
1846	546,227	2,209,879	2,756,106	364,151	2,352,452	2,716,603
1847	670,979	2,964,402	3,635,381	419,362	4,398,790	4,818,152
1848	779,420	2,472,973	3,252,393	487,137	2,153,870	2,641,007
1849	769,913	2,498,313	3,268,226	481,195	2,014,768	2,495,963
1850	756,877	2,517,022	3,273,899	378,438	2,111,051	2,489,489
1851	877,438	2,452,289	3,329,727	358,951	2,713,171	3,072,122
1852	674,881	2,443,363	3,118,244	494,913	3,186,995	3,681,908
1853	719,762	2,484,956	3,204,718	623,794	3,565,272	4,189,166
1854	638,039	2,135,527	2,773,566	454,494	2,554,795	3,009,289
1855	660,105	2,144,972	2,805,077	470,212	2,566,131	3,036,343
1856	585,891	2,162,321	2,748,212	497,606	3,327,407	3,825,013
1857	342,410	1,703,231	2,045,641	220,456	1,609,903	1,830,359
1858	159,439	1,951,315	2,110,754	146,334	2,245,349	2,391,683
1859	112,542	1,611,403	1,723,945	273,316	1,668,545	1,941,861
1860	223,885	2,785,712	3,009,597	159,918	4,879,935	5,039,852
1861	107,958	3,800,827	3,908,785	61,691	5,398,902	5,460,593
1862	161,556	5,027,387	5,188,943	126,937	5,464,551	5,591,488
1863	137,253	4,507,954	4,645,207	107,842	4,311,956	4,419,798
1864	117,692	3,886,290	3,983,982	173,736	5,881,891	6,055,627
1865	111,879	3,728,076	3,839,955	154,500	4,611,506	4,766,006
1866	131,021	4,305,618	4,436,639	193,412	5,530,000	5,723,412
1867	163,368	3,924,690	4,088,058	241,162	4,333,899	4,575,061
1868	206,395	4,040,168	4,246,563	304,678	4,461,418	4,766,096
1869	166,160	3,612,341	3,778,501	245,284	4,468,346	4,713,630
1870	132,155	2,479,423	2,611,578	195,086	4,746,324	4,941,410
1871	140,199	2,960,639	3,100,838	206,960	7,472,089	7,679,049
1872	160,703	2,911,708	3,072,411	337,228	7,339,072	7,576,300

YEAR.	TOLLS TO THE STATE.			CHARGE OVER TOLL TO CARRIERS.		
	1. On up freight, merchandise.	2. On down freight, produce.	3. Total.	4. On up freight, merchandise.	5. On down freight, produce.	6. Total.
1873..........	$79,646	$2,897,072	$2,976,718	$117,572	$6,290,785	$6,408,357
1874..........	60,110	2,576,961	2,637,071	89,686	4,245,850	4,335,536
1875...... .	27,374	1,562,658	1,590,032	40,409	3,232,696	3,273,105
1876....	14,233	1,325,771	1,340,004	20,058	2,537,904	2,557,962
Total 40 y'rs.	$14,972,241	$100,762,416	$115,734,657	$13,430,998	$133,705,691	$147,136,689
Yearly av'age	$374,306	$2,519,060	$2,868,366	$335,775	$3,342,642	$3,678,417

These tolls are often called a tax levied by the State on commerce. They are as much and no more a tax on commerce than the freight charges from New York to Liverpool, or from Albany to Buffalo by railway. The State has furnished a common highway for the transportation of freight in boats, and claims to be remunerated for the use of it by a small toll, much below any other artificial method of transportation by land or water.

The following table shows the total tons of transportation, the total cost of transportation, including toll and freight, and the difference each year between toll and freight.

YEAR.	Tons.	Tolls to the State.	Freight to carrier.	Total tolls and freight.	Freight more than toll	Freight less than toll.
1837	1,171,296	$1,292,623	$1,890,773	$3,183,396	$598,150	....
1838	1,333,011	1,590,911	1,985,484	3,576,395	394,573	....
1839	1,435,713	1,616,382	2,109,989	3,726,371	493,607	....
1840	1,416,046	1,775,747	2,419,802	4,195,549	644,055	....
1841	1,521,661	2,034,882	1,992,532	4,027,414	....	$42,350
1842	1,236,931	1,749,196	1,555,578	3,304,774	....	193,618
1843	1,513,439	2,081,590	1,478,147	3,559,737	....	603,443
1844	1,816,586	2,446,374	1,896,863	4,343,237	....	549,511
1845	1,985,011	2,646,181	1,785,280	4,431,461	....	890,901
1846	2,268,602	2,756,106	2,716,603	5,472,709	....	39,503
1847	2,869,810	3,635,381	4,818,152	8,453,533	1,182,771	....
1848	2,796,230	3,252,293	2,641,007	5,893,400	....	611,386
1849	2,894,732	3,268,226	2,495,963	5,764,189	....	772,263
1850	3,076,616	3,273,899	2,489,489	5,763,388	....	784,410
1851	3,582,733	3,329,727	3,072,122	6,401,849	....	257,605
1852	3,863,441	3,118,244	3,681,908	6,800,152	563,664	....
1853	4,247,853	3,204,718	4,189,166	7,393,884	984,448	....
1854	4,165,862	2,773,566	3,009,289	5,782,855	235,723	....
1855	4,022,617	2,805,077	3,036,343	5,841,420	231,266	....
1856	4,116,082	2,748,212	3,825,013	6,573,225	1,076,801	....
1857	3,344,061	2,045,641	1,830,359	3,876,000	....	215,282
1858	3,655,192	2,110,754	2,391,683	4,502,437	280,929	....
1859	3,781,684	1,723,945	1,941,861	3,665,806	217,916	....
1860	4,650,214	3,099,597	5,039,853	8,049,450	2,030,256	....
1861	4,507,635	3,908,785	5,460,593	9,369,378	1,551,808	....
1862	5,598,785	5,188,948	5,591,488	10,780,431	402,545	....
1863	5,557,692	4,645,207	4,419,798	9,065,005	....	255,409
1864	4,852,941	3,983,982	6,055,627	10,939,609	2,071,645	....
1865	4,729,654	3,839,955	4,766,066	8,605,961	926,051	....
1866	5,775,220	4,436,639	5,723,412	10,160,051	1,286,773	....
1867	5,688,325	4,088,058	4,575,061	8,663,119	487,003	....
1868	6,442,225	4,246,563	4,766,096	9,012,659	519,533	....
1869	5,859,080	3,778,501	4,713,630	8,492,131	935,129	....
1870	6,173,769	2,611,578	4,941,410	7,552,988	2,329,832	....
1871	6,467,888	3,100,838	7,679,049	10,779,887	4,578,211	....
1872	6,673,370	3,072,411	7,576,300	10,648,711	4,493,889	....
1873	6,364,782	2,976,718	6,290,785	9,267,508	3,314,067	....
1874	5,804,588	2,637,071	4,245,850	6,882,921	1,608,779	....
1875	4,859,858	1,590,032	3,232,696	4,822,728	1,642,664	....
1876	4,172,129	1,340,004	2,537,904	3,877,908	1,197,900	....
Total......	156,293,424	$115,734,657	$146,868,964	$262,603,621	$36,279,968	....

The table approximates, with a fair degree of accuracy, to the gross cost of transportation, distinguishing between what goes to the State and what goes to the carrier.

For the forty years the whole cost of transportation appears to have been	$262,603,621
Deduct carriers' charge	146,868,964
And it leaves the sum of as a toll belonging to the State, and which has gone into the treasury.	$115,734,657
Deduct the cost of repairs, etc., of canals for the same term	41,808,539
And it leaves the sum of	$73,926,118

As a charge upon the traffic on the canals beyond the cost of their support and maintenance, equal to $1,848,150 per annum for the forty years. This is a charge upon the transportation on the canals, imposed to pay the interest and principal of the debt incurred for the purposes connected with them; but it by no means follows that if there had been no dues to the State for the use of the canals, the carrier's charges would have been limited to the sums paid to him for his services.

The following table shows for a series of years the total charge on 100 tons up, and 100 tons down; the tons arriving at tide water from the Erie canal; the average cargoes of boats, and the lockages at Alexander's lock:

YEAR.	Tolls on 100 tons each way.	Freight on 100 tons each way.	Total charge.	Tons from Erie canal.	Average cargoes of boats.	Lockages at Alexander's lock.
1830	$1,530	$1,378	$2,908	....	....	....
1831	1,530	1,339	2,869	....	....	....
1832	1,530	1,397	2,927	....	....	....
1833	1,241	1,174	2,415	....	....	....
1834	987	1,424	2,411	....	....	....
1835	987	1,245	2,232	497,839	38	25,798
1836	987	1,829	2,816	519,125	38	25,516
1837	987	1,626	2,613	387,506	....	21,055
1838	987	1,392	2,379	419,249	32	25,962
1839	987	1,419	2,406	386,267	32	24,234
1840	987	1,426	2,413	467,315	34	26,987
1841	987	893	1,880	532,520	35	20,320
1842	987	938	1,925	480,149	42	22,869
1843	987	691	1,678	685,345	55	23,184
1844	987	871	1,858	799,816	56	23,219
1845	987	541	1,528	959,590	63	30,452
1846	771	625	1,396	1,107,270	66	33,431
1847	771	726	1,497	1,431,252	65	43,957
1848	771	550	1,321	1,184,337	68	34,911

YEAR.	Tolls on 100 tons each way.	Freight on 100 tons each way.	Total charge.	Tons from Erie canal	Average cargoes of boats.	Lockages at Alexander's lock.
1849	$771	$531	$1,302	1,266,724	68	36,918
1850	771	481	1,252	1,371,859	80	38,444
1851	658	421	1,079	1,508,677	75	40,396
1852	509	507	1,016	1,644,699	80	41,572
1853	511	567	1,078	1,851,438	84	42,967
1854	511	470	981	1,702,698	24	35,981
1855	511	470	981	1,420,715	92	30,873
1856	511	385	1,096	1,587,130	100	31,223
1857	511	395	906	1,117,199	100	22,182
1858	282	302	584	1,496,687	126	23,474
1859	211	316	527	1,451,833	148	31,905
1860	282	347	629	2,276,061	140	32,439
1861	316	339	646	2,449,609	157	31,179
1862	351	341	692	2,917,094	167	34,977
1863	351	314	665	2,647,689	177	30,071
1864	316	476	792	2,146,684	150	28,742
1865	316	406	722	2,078,361	160	26,037
1866	316	426	742	2,523,664	170	29,882
1867	316	387	703	2,226,112	156	28,654
1868	316	388	704	2,378,572	148	32,107
1869	316	416	732	2,257,689	183	24,625
1870	210	356	566	2,290,698	181	25,124
1871	210	420	630	2,648,877	178	29,725
1872	210	420	630	2,670,405	190	28,035
1873	210	420	630	2,585,355	207	24,960
1874	210	420	630	2,370,297	197	24,085
1875	175	298	473	1,914,942	204	18,761
1876	175	289	464	1,745,820	209	16,671

MOVEMENT OF TRADE.

The Auditor will now submit a series of comparative statements of the movement of freight on the two railways connecting New York with Lake Erie, and the State canals, during the last twenty-one years, showing the tons carried each year, the total movement of number of tons moved one mile, and the freight and tolls received therefrom.

This statement shows the tons of total movement on the lines named for twenty-one years, the freight paid to the roads, and the tolls paid to the State, and carrier's charge on the canals with the tolls.

YEAR.	Tons moved one mile.	Freight and tolls.	Average per ton one mile.
1856.			
New York Central railroad	145,738,678	$4,328,041 00	2.97 cents.
New York and Erie railroad	183,458,046	4,545,782 00	2.48 cents.
Canals	592,009,603	6,573,225 00	1.11 cents.
Totals	921,201,327	$15,447,048 00	1.67 cents.
1857.			
New York Central railroad	145,773,791	$4,559,276 00	3.13 cents.
New York and Erie railroad	167,100,850	4,097,610 00	2.45 cents.
Canals	484,750,864	3,876,000 00	7.99 cents.
Totals	797,725,505	$12,532,886 00	1.57 cents.

YEAR.	Tons moved one mile.	Freight and tolls.	Average per ton one mile.
1858.			
New York Central railroad	142,691,178	$3,700,270 44	2.59 cents,
New York and Erie railroad	165,895,635	3,843,310 77	3.32 cents,
Canals	564,842,095	4,502,437 00	7.97 mills.
Totals	873,428,908	$12,046,018 21	1.38 cents.
1859.			
New York Central railroad	157,136,000	$3,337,148 00	2.13 cents.
New York and Erie railroad	147,127,039	3,195,869 00	2.17 cents.
Canals	544,309,072	3,665,806 00	6.72 mills.
Totals	848,572,111	$10,198,823 00	1.19 cents.
1860.			
New York Central railroad	199,231,392	$4,095,934 00	2.06 cents.
New York and Erie railroad	214,084,395	3,884,343 00	1.84 cents.
Canals	809,424,596	8,049,450 00	9.94 mills.
Totals	1,222,840,383	$16,029,727 00	1.31 cents.
1861.			
New York Central railroad	237,392,974	$4,644,449 00	1.96 cents.
New York and Erie railroad	251,350,127	4,351,464 00	1.73 cents.
Canals	863,623,597	9,369,378 00	1.08 cents.
Totals	1,352,366,608	$18,365,291 00	1.36 cents.
1862.			
New York Central railroad	296,963,492	$6,607,331 00	2.22 cents.
Erie railway	351,092,285	6,642,915 00	1.89 cents.
Canals	1,123,548,490	10,780,431 00	9.59 mills.
Totals	1,771,604,207	$24,030,677 00	1.36 cents.
1863.			
New York Central railroad	312,195,796	$7,498,509 00	2.40 cents.
Erie railway	403,670,861	8,432,234 00	2.09 cents.
Canals	1,034,130,023	9,065,005 00	8.76 mills.
Totals	1,719,096,680	$24,995,748 00	1.45 cents.
1864.			
New York central railroad	314,081,410	$8,543,370 00	2.75 cents.
Erie railway	422,013,644	9,855,087 00	2.31 cents.
Canals	871,335,150	10,039,609 00	1.15 cents.
Totals	1,607,430,204	$28,438,066 00	1.77 cents.
1865.			
New York Central railroad	264,993,626	$8,776,028 00	3.31 cents.
Erie railway	388,557,213	10,726,264 00	2.76 cents.
Canals	843,915,779	8,605,961 00	1.10 cents.
Totals	1,497,466,618	$28,108,253 00	1.85 cents.
1866.			
New York Central railroad	331,075,547	$9,671,920 00	2.92 cents.
Erie railway	478,485,772	11,611,023 00	2.45 cents.
Canals	1,012,448,034	10,160,051 00	1.00 cent.
Totals	1,822,209,353	$31,442,994 00	1.78 cents.
1867.			
New York Central railroad	362,180,606	$9,151,750 00	2.53 cents.
Erie railway	549,888,422	11,204,689 00	2.04 cents.
Canals	958,362,953	8,663,119 00	.90 cent.
Totals	1,870,431,981	$29,019,558 00	1.55 cents.
1868			
New York Central railroad	366,199,786	$9,491,427 00	2.59 cents.
Erie railway	595,699,225	11,425,739 00	1.92 cents.
Canals	1,033,751,268	9,012,659 00	.88 cent.
Totals	1,995,650,279	$29,929,825 00	1.49 cents.

YEAR.	Tons moved one mile.	Freight and tolls.	Average per ton one mile.
1869.			
New York Central railroad	474,419,726	$10,457,532 00	2.20 cents.
Erie railway	817,829,190	13,046,804 00	1.60 cents.
Canals	919,158,611	8,492,181 00	.92 cent.
Totals	2,211,402,527	$31,996,517 00	1.57 cents.
1870.			
New York Central railroad	769,087,777	$14,327,418 00	1.86 cents.
Erie railway	898,862,718	12,328,027 00	1.37 cents.
Canals	904,351,572	7,552,988 00	.83 cent.
Totals	2,572,302,067	$34,208,433 00	1.33 cents.
1871.			
New York Central railroad	888,327,865	$14,647,580 00	1.65 cents.
Erie railway	897,446,728	13,236,235 00	1.47 cents.
Canals	1,050,104,125	10,775,887 00	1.02 cents.
Totals	2,835,878,718	$38,659,702 00	1.36 cents.
1872.			
New York Central railroad	1,020,908,885	$16,259,647 00	1.69 cents.
Erie railway	950,708,902	14,509,745 00	1.52 cents.
Canals	1,048,575,911	10,648,711 00	1.02 cents.
Totals	3,020,193,698	$41,418,103 00	1.37 cents.
1873.			
New York Central railroad	1,246,650,063	$19,616,018 00	1.57 cents.
Erie railway	1,032,986,809	15,015,808 00	1.45 cents.
Canals	1,057,711,089	9,267,508 00	.88 cent.
Totals	3,336,347,961	$45,047,298 00	1.35 cents.
1874.			
New York Central railroad	1,391,560,707	$20,348,725 23	1.47 cents.
Erie railway	1,047,420,238	13,740,042 44	1.31 cents.
Canals	938,774,141	6,882,921 00	.73 cent.
Totals	3,377,755,086	$40,971,688 67	1.21 cents.
1875.			
New York Central railroad	1,404,008,029	$17,899,702 00	1.27 cents.
Erie railway	1,016,618,050	12,287,400 00	1.21 cents.
Canals	727,597,364	4,822,728 00	.66 cent.
Totals	3,148,223,443	$35,009,830 00	1.11 cents.
1876.			
New York Central railroad	1,674,447,055	$17,593,265 00	1.05 cents.
Erie railway	1,040,431,921	11,429,930 00	1.07 cents.
Canals	570,969,064	3,877,908 00	.68 cent.
Totals	3,285,848,040	$32,901,103 00	1 00 cents.

The following table shows the separate tonnage of the canals and two railroads, and the aggregate of both, for twenty-four years, from 1853 to 1876, inclusive, with the losses and gains of each compared with the preceding year:

CANALS AND RAILROADS.	1853.	1854.	Gain in 1854.	Loss in 1854.
New York canals, tons	4,247,853	4,165,862	....	81,991
New York Central railroad, tons	360,000	549,804	189,804	....
New York and Erie railroad, tons	631,039	743,250	112,211	....
	5,238,892	5,458,916	302,015	81,991
	1854.	1855.	Gain in 1855.	Loss in 1855.
New York canals, tons	4,165,862	4,022,617	....	143,245
New York Central railroad, tons	549,804	670,073	120,269	....
New York and Erie railroad, tons	743,250	842,048	19,798	....
	5,458,916	5,534,738	219,067	143,245
	1855.	1856.	Gain in 1856.	Loss in 1856.
New York canals, tons	4,022,617	4,116,082	93,465	....
New York Central railroad, tons	670,073	776,112	106,039	....
New York and Erie railroad, tons	842,046	948,215	101,167	....
	5,534,738	5,835,409	300,671	....
	1856.	1857.	Gain in 1857.	Loss in 1857.
New York canals, tons	4,116,082	3,344,061	....	772,021
New York Central railroad, tons	776,112	838,791	62,679	....
New York and Erie railroad, tons	943,215	978,066	34,851	....
	5,835,409	5,160,918	97,530	772,021
	1857.	1858.	Gain in 1858.	Loss in 1858.
New York canals, tons	3,344,061	3,665,192	321,131	....
New York Central railroad, tons	838,791	765,407	....	73,384
New York and Erie railroad, tons	978,066	816,054	....	161,112
	5,160,918	5,247,553	321,131	234,496
	1858.	1859.	Gain in 1859.	Loss in 1859.
New York canals, tons	3,665,192	3,781,684	116,492	....
New York Central railroad, tons	765,407	834,819	68,912	....
New York and Erie railroad, tons	816,954	869,073	53,119	....
	5,247,558	5,485,076	238,523	....
	1859.	1860.	Gain in 1860.	Loss in 1860.
New York canals, tons	3,781,684	4,650,214	868,530	....
New York Central railroad, tons	834,819	1,028,183	193,864	....
New York and Erie railroad, tons	868,073	1,139,554	270,481	....
	5,485,076	6,817,951	1,332,875	....
	1860.	1861.	Gain in 1861.	Loss in 1861.
New York canals, tons	4,050,214	4,507,685	....	142,579
New York Central railroad, tons	1,028,183	1,167,302	139,119	....
New York and Erie railroad, tons	1,139,554	1,253,418	113,864	....
	6,817,951	6,928,355	262,983	142,579
	1861.	1862.	Gain in 1862.	Loss in 1862.
New York canals, tons	4,507,685	5,598,785	1,091,150	....
New York Central railroad, tons	1,167,302	1,387,433	220,131	....
Erie railway, tons	1,253,418	1,632,955	379,537	....
	6,928,855	8,619,173	1,690,818	....

CANALS AND RAILROADS.	1862.	1863.	Gain in 1863.	Loss in 1863.
New York canals, tons	5,598,785	5,557,692	....	41,093
New York Central railroad, tons	1,387,483	1,449,604	62,171	....
Erie railway, tons	1,632,955	1,815,096	182,141	....
	8,619,173	8,822,392	244,312	41,093
	1863.	1864.	Gain in 1864.	Loss in 1864.
New York canals, tons	5,557,692	4,852,941	....	704,751
New York Central railroad, tons	1,449,604	1,557,148	107,544	....
Erie railway, tons	1,815,096	2,170,798	355,702	....
	8,822,392	8,580,887	463,246	704,751
	1864.	1865.	Gain in 1865.	Loss in 1865.
New York canals, tons	4,852,941	4,729,654	....	123,287
New York Central railroad, tons	1,557,148	1,275,299	....	281,849
Erie railway, tons	2,170,798	2,234,350	63,552	....
	8,580,887	8,239,303	63,552	405,136
	1865.	1866.	Gain in 1866.	Loss in 1866.
New York canals, tons	4,729,654	5,775,220	1,045,566	....
New York Central railroad, tons	1,275,299	1,602,197	326,898	....
Erie railway, tons	2,234,350	3,242,792	1,008,442	....
	8,239,303	10,620,209	2,380,906	....
	1866.	1867.	Gain in 1867.	Loss in 1867.
New York canals, tons	5,775,220	5,688,325	....	86,895
New York Central railroad, tons	1,602,197	1,667,926	65,729	....
Erie railway, tons	3,242,792	3,484,546	241,754	....
	10,620,209	10,840,797	307,483	86,895
	1867.	1868.	Gain in 1868.	Loss in 1868.
New York canals, tons	5,688,325	6,442,225	753,900	....
New York Central railroad, tons	1,667,926	1,846,599	178,673	....
Erie railway, tons	3,484,546	3,908,243	423,697	....
	10,840,797	12,197,067	1,356,270	....
	1868.	1869.	Gain in 1869.	Loss in 1869.
New York canals, tons	6,442,225	5,859,080	....	583,145
New York Central railroad, tons	1,846,599	2,281,885	435,286	....
Erie railway, tons	3,908,243	4,312,209	403,966	....
	12,197,067	12,453,174	839,252	583,145
	1869.	1870.	Gain in 1870.	Loss in 1870.
New York canals, tons	5,859,080	6,173,769	314,689	....
New York Central railroad, tons	2,281,885	4,122,000	1,840,115	....
Erie railway, tons	4,312,209	4,852,505	549,296	....
	12,453,174	15,148,274	2,695,100	....
	1870.	1871.	Gain in 1871.	Loss in 1871.
New York canals, tons	6,173,769	6,467,888	294,119	....
New York Central railroad, tons	4,122,000	4,532,056	410,056	....
Erie railway, tons	4,852,505	4,844,208	....	8,297
	15,148,274	15,844,152	704,175	8,297
	1871.	1872.	Gain in 1872.	Loss in 1872.
New York canals, tons	6,467,888	6,673,370	205,482	....
New York Central railroad, tons	4,532,056	4,393,965	....	138,091
Erie railway, tons	4,844,208	5,564,274	720,066	....
	15,844,152	16,631,609	925,548	138,091

CANALS AND RAILROADS.	1872.	1873.	Gain in 1873.	Loss in 1873.
New York canals, tons	6,678,370	6,364,782	....	308,588
New York Central railroad, tons	4,393,965	5,522,724	1,128,759	....
Erie railway, tons	5,564,274	6,312,702	748,430	....
	16,631,609	18,200,208	1,877,189	308,588
	1873.	1874.	Gain in 1874.	Loss in 1874.
New York canals, tons	6,364,782	5,804,588	....	560,194
New York Central railroad, tons	5,522,724	6,114,678	591,954	....
Erie railway, tons	6,312,702	6,364,276	51,574	....
	18,200,208	18,283,542	643,528	560,194
	1874.	1875.	Gain in 1875.	Loss in 1875.
New York canals, tons	5,804,588	4,859,858	....	944,736
New York Central railroad, tons	6,114,678	6,001,954	....	112,724
Erie railway, tons	6,364,276	6,239,946	....	124,330
	18,283,542	17,101,758	....	1,181,784
	1875.	1876.	Gain in 1876.	Loss in 1876.
New York canals, tons	4,859,858	4,172,129	....	687,729
New York Central railroad, tons	6,001,954	6,803,680	801,726	....
Erie railway, tons	6,239,946	5,972,818	....	267,128
	17,101,758	16,948,627	801,726	954,857

The important exhibits of these tables might be rendered doubly so if the railroads would consent, or the Legislature would compel them, to make their returns conform more nearly to those of the canals. The State Engineer gets from the road reports of tonnage return under seven general heads. Under these same general heads the canal reports classify sixty-two different articles, and we know how much in quantity of each class has been carried on the canals, the value at the place of shipment, and the tolls paid to the State thereon.

Comparing 1875 and 1876, and we have a loss on the canals in the latter, as compared with the former, of 687,729 tons; on the railroads a gain of 534,598; total gain, 153,131 tons.

Total increase on all lines since 1859, 11,769,813 tons, or more than 175 per cent.

The following table shows the tons of each class of freight, and the aggregate tonnage of all classes, transported on the New York Central railroad for each year, commencing with 1856.

YEAR.	Products of the forest.	Products of animals.	Vegetable food.	All other agricultural products.	Manufactures.	Merchandise.	Other articles.	Aggregate tonnage.
1856..........	29,547	161,807	283,027	20,068	72,732	127,231	81,700	776,112
1857..........	31,468	180,852	275,941	18,989	75,731	177,708	78,102	838,791
1858..........	24,368	172,076	301,507	18,373	47,939	134,482	66,662	765,407
1859..........	35,154	204,167	249,751	30,096	57,036	178,782	79,333	834,319
1860..........	42,305	223,362	343,872	39,169	77,256	201,587	100,632	1,028,183
1861..........	39,310	251,964	441,562	47,341	80,597	192,583	113,945	1,167,302
1862..........	39,479	359,020	469,885	45,245	92,123	243,105	138,576	1,387,433
1863..........	52,829	395,876	405,380	72,467	88,965	310,275	123,812	1,449,604
1864..........	87,584	383,000	461,511	57,150	112,267	287,804	167,832	1,557,148
1865..........	55,718	348,661	349,103	32,099	71,484	258,043	160,191	1,275,299
1866..........	77,443	366,516	453,663	31,620	94,426	342,767	235,762	1,602,197
1867..........	97,035	358,143	495,194	43,544	111,291	323,359	239,360	1,667,926
1868..........	100,067	358,592	568,680	40,915	135,211	252,351	390,783	1,846,599
1869..........	122,436	405,617	764,831	48,523	161,639	291,787	487,052	2,281,885
1870..........	224,169	622,744	1,297,481	86,178	381,052	623,643	886,733	4,122,000
1871..........	274,685	708,904	1,459,919	117,627	389,603	626,245	955,073	4,532,056
1872..........	317,727	785,879	1,158,894	249,062	489,720	474,272	918,411	4,393,965
1873..........	425,115	962,767	1,452,962	172,506	493,935	565,495	1,449,944	5,522,724
1874..........	458,527	973,653	1,678,476	219,815	626,632	538,080	1,619,495	6,114,678
1875..........	383,708	832,935	1,669,070	242,750	673,274	560,176	1,640,041	6,001,954
1876..........	408,564	827,278	2,100,339	317,710	767,190	546,047	1,836,552	6,803,680

The following table shows the tons of each class of freight, and the aggregate tonnage of all classes, transported on the Erie railway for each year, commencing with 1856.

YEAR.	Products of the forest.	Products of animals.	Vegetable food.	Other agricultural products.	Manufactures.	Merchandise.	Other articles.	Aggregate tonnage.
1856	116,378	170,099	148,943	13,556	110,769	155,473	218,003	933,221
1857	126,093	145,957	120,617	13,909	143,338	143,716	284,436	978,006
1858	92,550	178,076	154,534	10,885	88,976	128,709	163,235	816,965
1859	97,754	170,322	112,727	15,107	94,266	179,050	199,846	869,072
1860	118,890	201,823	197,233	19,909	113,948	198,610	289,141	1,139,554
1861	108,685	209,757	243,959	26,920	145,672	167,245	351,181	1,253,419
1862	99,677	299,715	261,824	44,067	236,909	220,499	470,264	1,632,955
1863	102,008	338,551	228,632	65,171	270,952	296,998	512,784	1,815,096
1864	104,069	280,723	215,986	260,902	116,681	362,767	829,670	2,170,798
1865	99,865	249,220	212,677	75,344	226,298	327,328	1,043,618	2,234,350
1866	173,410	314,468	397,963	72,554	458,026	356,306	1,470,065	3,242,792
1867	197,715	295,671	277,432	62,694	409,446	301,909	1,939,679	3,484,546
1868	216,123	280,116	302,451	50,405	402,576	398,761	2,257,811	3,908,243
1869	191,629	273,548	322,978	15,752	436,846	459,784	2,611,672	4,312,209
1870	198,620	271,245	468,976	111,155	348,423	440,353	3,013,733	4,852,505
1871	261,272	319,785	745,670	118,961	508,654	478,229	2,411,637	4,844,208
1872	279,725	304,599	711,720	79,498	595,677	451,543	3,141,512	5,564,274
1873	227,112	325,168	584,030	93,579	444,801	600,980	4,037,032	6,312,702
1874	184,464	295,582	791,265	101,961	227,377	597,572	4,166,055	6,364,276
1875	179,514	288,880	674,174	113,195	322,860	553,253	4,108,070	6,239,946
1876	195,865	341,520	775,464	138,737	302,143	609,955	3,609,134	5,972,818

This table shows the canal tolls and railway freights paid on the tonnage in the preceding table. The aggregate receipts of tolls and railway freights in 1876 exceed those of 1853, the lowest year in the series, by $22,782,437; a gain of 603 per cent on the railway receipts, and a loss on the toll receipts of over four per cent.

CANALS AND RAILROADS.	1853.	1854.	Gain in 1854.	Loss in 1854.
New York canals, tolls	$3,204,718	$2,773,566	....	$431,152
New York Central railroad freight	1,838,830	2,479,820	$640,900	....
New York and Erie railroad, freight	2,537,214	3,369,590	832,376	....
	$7,580,762	$8,622,976	$1,473,376	$431,152
	1854.	1855.	Gain in 1855.	Loss in 1855.
New York canals, tolls	$2,773,556	$2,805,077	$31,511	....
New York Central railroad, freight	2,479,820	3,189,603	709,783	....
New York and Erie railroad, freight	3,369,590	3,654,002	283,412	....
	$8,622,976	$9,647,682	$1,024,706	....
	1855.	1856.	Gain in 1856.	Loss in 1856.
New York canals, tolls	$2,805,077	$2,748,212	... .	$56,865
New York Central railroad, freight	3,189,603	4,328,041	$1,138,438	....
New York and Erie railroad, freight	3,653,002	4,545,782	892,780	....
	$9,647,682	$11,622,035	$2,031,218	$56,865
	1856.	1857	Gain in 1857.	Loss in 1857.
New York canals, tolls	$2,748,212	$2,045,641	. ...	$702,571
New York Central railroad, freight	4,328,041	4,559,276	$231,235	....
New York and Erie railroad, freight	4,545,782	4,097,610	....	448,172
	$11,622,035	$10,702,527	$231,235	$1,150,743
	1857.	1858.	Gain in 1858.	Loss in 1858.
New York canals, tolls	$2,045,641	$2,110,754	$65,313	....
New York Central railroad, freight	5,559,276	3,700,270	....	$859,006
New York and Erie railroad, freight	4,097,610	3,843,310	....	254,300
	$10,702,527	$9,654,334	$65,313	$1,113,306
	1858.	1859.	Gain in 1859.	Loss in 1859.
New York canals, tolls	$2,110,754	$1,723,945	....	$386,809
New York Central railroad, freight	3,700,270	3,337,148	....	343,022
New York and Erie railroad, freight	3,843,310	3,195,869	....	647,441
	$9,654,334	$8,256,962	....	$1,397,272
	1859.	1860.	Gain in 1860.	Loss in 1860.
New York canals, tolls	$1,723,945	$3,009,597	$1,285,652	... .
New York Central railroad, freight	3,337,148	4,095,939	758,791	....
New York and Erie railroad, freight	3,195,869	3,884,343	688,474	....
	$8,256,962	$10,989,879	$2,732,917	. ...
	1860.	1861.	Gain in 1861.	Loss in 1861.
New York canals, tolls	$3,009,597	$3,908,785	$899,188	....
New York Central railroad, freight	4,095,939	4,664,449	568,510	... .
New York and Erie railroad, freight	3,884,343	4,351,464	467,121	....
	$10,989,879	$12,924,698	$1,934,819	....
	1861.	1862.	Gain in 1862.	Loss in 1862.
New York canals, tolls	$3,908,785	$5,188,943	$1,279,158	....
New York Central railroad, freight	4,664,449	6,607,331	1,942,882	....
New York and Erie railroad, freight	4,351,464	6,642,915	2,291,451	....
	$12,924,698	$18,439,189	$5,513,491	....

CANALS AND RAILROADS.	1862.	1863.	Gain in 1863.	Loss in 1863.
New York canals, tolls	$5,188,943	$4,645,207	....	$543,736
New York Central railroad, freight	6,607,331	7,498,509	$891,278	....
New York and Erie railroad, freight	6,642,915	8,432,234	1,789,319	....
	$18,439,189	$20,575,950	$2,680,597	$543,736
	1863.	1864.	Gain in 1864.	Loss in 1864.
New York canals, tolls	$4,645,207	$3,983,982	....	$661,225
New York Central railroad, freight	7,498,509	8,543,370	$1,044,861	....
Erie railway, freight	8,432,234	9,855,087	1,422,853	....
	$20,575,950	$22,382,439	$2,467,714	$661,225
	1864.	1865.	Gain in 1865.	Loss in 1865.
New York canals, tolls	$3,983,982	$3,839,955	....	$144,027
New York Central railroad, freight	8,543,370	8,776,028	$232,658	....
Erie railway, freight	9,855,087	10,726,264	871,177	....
	$22,382,439	$23,342,247	$1,103,835	$144,027
	1865.	1866.	Gain in 1866.	Loss in 1866.
New York canals, tolls	$3,839,955	$4,436,639	$596,684	....
New York Central railroad, freight	8,776,028	9,671,920	895,892	....
Erie railway, freight	10,726,264	11,611,023	884,759	....
	$23,342,247	$25,719,582	$2,377,335	....
	1866.	1867.	Gain in 1867.	Loss in 1867.
New York canals, tolls	$4,436,639	$4,088,058	....	$348,581
New York Central railroad, freight	9,671,920	9,151,750	....	520,170
Erie railway, freight	11,611,023	11,204,689	....	406,334
	$25,719,582	$24,444,497	....	$1,275,085
	1867.	1868.	Gain in 1868.	Loss in 1868.
New York canals, tolls	$4,088,058	$4,246,563	$158,505	....
New York Central railroad, freight	9,151,750	9,491,427	339,677	....
Erie railway, freight	11,204,689	11,425,789	221,050	....
	$24,444,479	$25,163,729	$719,232	....
	1868.	1869.	Gain in 1869.	Loss in 1869.
New York canals, tolls	$4,246,563	$3,778,501	....	$468,062
New York Central railroad, freight	9,491,427	10,457,582	$966,155	....
Erie railway, freight	11,425,739	13,046,804	1,621,065	....
	$25,163,729	$27,282,887	$2,587,220	$468,062
	1869.	1870.	Gain in 1870.	Loss in 1870.
New York canals, tolls	$3,778,501	$2,611,578	....	$1,166,923
New York Central railroad, freight	10,457,582	14,327,418	$3,869,836	....
Erie railway, freight	13,046,804	12,328,027	....	718,777
	$27,282,887	$29,267,023	$3,869,836	$1,885,700
	1870.	1871.	Gain in 1871.	Loss in 1871.
New York canals, tolls	$2,611,578	$3,100,839	$489,261	....
New York Central railroad, freight	14,327,418	14,647,580	320,162	....
Erie railway, freight	12,328,027	13,232,235	904,208	....
	$29,267,023	$30,980,654	$1,713,631	....
	1871.	1872.	Gain in 1872.	Loss in 1872.
New York canals, tolls	$3,100,839	$3,072,411	....	$28,427
New York Central railroad, freight	14,647,580	16,259,647	$1,612,067	....
Erie railway, freight	13,232,235	14,509,745	1,277,516	....
	$30,980,654	$33,841,803	$2,889,577	$28,427

CANALS AND RAILROADS.	1872.	1873.	Gain in 1873.	Loss in 187
New York canals, tolls	$3, 072, 411	$2, 976, 718	....	$95, 6
New York Central railroad, freight	16, 259, 647	19, 616, 018	$3, 356, 371	....
Erie railway, freight	14, 509, 745	15, 015, 808	506, 063	....
	$33, 841, 803	$37, 608, 544	$3, 862, 434	$95, 6
	1873.	1874.	Gain in 1874.	Loss in 187
New York canals, tolls	$2, 976, 718	$2, 637, 071	....	$339, 7
New York Central railroad, freight	19, 616, 018	20, 348, 725	$732, 707	....
Erie railway, freight	15, 015, 808	14, 740, 042	....	1, 275, 7
	$37, 608, 544	$36, 725, 838	$732, 707	$1, 615, 5
	1874.	1875.	Gain in 1875.	Loss in 187
New York canals, tolls	$2, 637, 071	$1, 950, 032	....	$687, 0
New York Central railroad, freight	20, 348, 725	17, 899, 702	....	2, 449, 0
Erie railway, freight	13, 740, 042	12, 287, 400	....	1, 452, 6
	$36, 725, 838	$32, 137, 134	....	$4, 588, 7
	1875.	1876.	Gain in 1876.	Loss in 187
New York canals, tolls	$1, 590, 032	$1, 340, 004	....	$250, 0
New York Central railroad, freight	17, 899, 702	17, 593, 265	....	306, 4
Erie railway, freight	12, 287, 400	11, 429, 980	....	857, 4
	$32, 137, 134	$30, 363, 199	....	$1, 413, 9

SERIES OF TABLES.

The following series of tables have been prepared to show the endency of trade on the canals. The remarks preceding each statenent explain their object and contents fully.

The total tonnage of all the property on the canals ascending and lescending, its value and the amount of tolls collected for the forty ears preceding, is as follows:

YEAR.	Tons.	Value.	Tolls.
837	1,171,296	$55,809,288	$1,292,623
838	1,333,011	65,746,559	1,590,911
839	1,435,713	73,399,764	1,616,382
840	1,416,046	66,303,892	1,775,747
841	1,521,661	92,202,929	2,034,882
842	1,236,931	60,016,608	1,749,196
843	1,513,439	76,276,909	2,081,590
844	1,816,586	90,921,152	2,446,374
845	1,985,011	100,553,245	2,646,181
846	2,268,662	115,612,109	2,756,106
847	2,869,810	151,663,428	3,635,381
848	2,796,230	140,086,157	3,252,212
849	2,894,732	144,732,285	3,268,226
850	3,076,617	156,397,929	3,273,899
851	2,585,733	159,981,801	3,329,727
852	3,863,441	196,603,517	3,118,244
853	4,247,852	207,119,570	3,204,718
854	4,165,862	210,284,312	2,773,566
855	4,022,617	204,390,147	2,805,077
856	4,116,082	218,327,062	2,748,203
857	3,344,061	136,997,018	2,045,641
858	3,665,192	138,568,844	2,110,754
859	3,781,684	132,160,758	1,723,945
860	4,650,214	170,849,198	3,009,597
861	4,507,635	130,115,893	3,908,785
862	5,598,785	203,234,331	5,188,943
863	5,557,692	240,046,461	4,645,207
864	4,852,941	274,400,639	3,983,982
865	4,729,654	256,237,104	3,839,955
866	5,775,220	270,963,676	4,436,639
867	5,688,325	278,956,712	4,088,058
868	6,442,225	305,301,929	4,246,563
869	5,859,080	249,281,284	3,778,501
870	6,173,769	231,836,176	2,611,578
871	6,467,888	238,767,691	3,100,838
872	6,673,370	220,913,321	3,072,411
873	6,364,782	191,715,500	2,976,718
874	5,804,588	196,674,322	2,637,071
875	4,859,858	145,008,575	1,590,032
876	4,172,129	113,090,379	1,340,004

The total tons coming to tide water from Erie and Champlain canals for each of the last forty years, and the aggregate value thereof in market, is as follows:

YEAR.	Tons.	Value.
1837	611,781	$21,822,354
1838	640,481	23,038,510
1839	602,128	20,163,199
1840	669,012	23,213,573
1841	774,334	27,225,322
1842	666,626	22,751,013
1843	836,861	28,453,408
1844	1,019,094	34,183,167
1845	1,204,943	45,452,321
1846	1,362,319	51,105,256
1847	1,744,283	73,092,414
1848	1,447,905	50,883,907
1849	1,579,946	52,375,521
1850	2,038,863	55,474,637
1851	1,977,151	53,927,508
1852	2,234,822	66,893,102
1853	2,505,797	73,688,044
1854	2,223,743	72,120,681
1855	1,890,593	74,177,937
1856	2,123,469	74,286,735
1857	1,617,187	51,190,018
1858	1,985,142	61,536,061
1859	2,121,672	43,175,312
1860	2,854,877	78,798,617
1861	2,980,144	81,432,759
1862	3,402,709	111,176,568
1863	3,274,727	123,173,294
1864	2,805,257	145,609,202
1865	2,730,181	113,865,846
1866	3,305,607	131,801,477
1867	3,029,695	120,902,834
1868	3,240,806	136,446,582
1869	3,096,142	114,866,060
1870	3,156,301	105,517,020
1871	3,494,801	106,874,570
1872	3,647,944	107,086,362
1873	3,376,649	97,869,497
1874	3,123,112	107,976,476
1875	2,608,777	89,447,518
1876	2,426,182	73,893,878

The whole quantity of wheat and flour which came to the Hudson iver from 1837 to 1876, inclusive, with the aggregate market value f the same, and the amount of tolls received on all the wheat and lour transported on the canals in each year from 1837 to 1876, nclusive, is as follows:

YEAR.	Tons.	Value.	Tolls.
837................	116,491	$9,640,156	$301,739
838................	133,080	9,883,586	380,161
839................	124,683	7,217,841	404,525
840................	244,862	10,862,812	700,071
841................	201,360	10,165,355	621,046
842................	198,231	9,284,778	606,727
843................	248,780	10,283,454	731,816
844................	277,865	11,211,677	816,711
845................	320,463	15,962,950	851,533
846................	419,366	18,836,412	1,099,325
847................	551,205	32,890,938	1,460,424
848................	431,641	21,148,421	1,126,133
849................	434,444	19,308,595	1,128,064
850................	461,781	20,218,188	1,114,519
851................	457,624	16,487,652	867,881
852................	576,772	22,564,256	995,160
853................	618,858	30,034,571	998,962
854................	240,655	18,482,377	363,763
855................	301,125	23,163,681	548,946
856................	474,385	29,098,973	709,640
857................	263,141	14,043,581	456,350
858................	454,831	19,632,087	529,254
859................	250,872	9,970,409	298,100
860................	710,138	29,027,837	841,444
861................	1,054,295	42,200,199	1,566,880
862................	1,177,299	50,160,517	2,178,345
863................	846,446	41,463,393	1,557,862
864................	606,891	48,386,617	1,175,646
865................	420,643	27,917,580	789,073
866................	289,166	22,867,943	526,351
867................	332,589	24,579,421	707,349
868................	390,852	29,871,363	721,954
869................	636,670	31,923,209	1,121,895
870................	575,684	26,781,591	527,803
871................	678,450	34,682,940	578,997
872................	356,917	19,858,326	240,274
873................	682,827	36,481,266	744,762
874................	726,702	30,454,750	707,119
875................	686,709	28,649,579	472,922
876................	357,683	17,763,864	250,866

TABLE showing the tons of wheat and flour shipped at Buffalo and Oswego, from the year 1837 *to* 1876; *at Black Rock from* 1839 *to* 1856, *inclusive, and at Tonawanda from* 1850 to 1876, *and the total tons of wheat and flour which arrived at the Hudson river, as follows:*

YEAR.	Buffalo, tons.	Black Rock, tons.	Tonawanda, tons.	Oswego, tons.	Total.	Total tons arrived at tide water.
1837	27,206	....	....	7,429	34,635	116,491
1838	57,977	....	....	10,010	67,987	133,080
1839	60,082	7,697	....	15,108	82,887	124,683
1840	95,573	12,825	....	15,075	123,473	214,862
1841	106,271	24,843	....	16,677	147,791	201,360
1842	107,522	13,035	....	14,338	134,895	198,231
1843	146,126	12,882	....	25,853	184,866	248,780
1844	145,510	15,609	....	42,292	203,472	277,893
1845	118,614	17,066	....	44,560	180,240	320,463
1846	247,860	15,564	....	63,905	328,329	419,366
1847	380,053	18,489	....	87,329	485,871	551,205
1848	253,325	19,376	....	90,411	363,112	431,641
1849	299,983	22,196	....	119,201	371,380	434,444
1850	205,457	24,256	13,815	133,473	377,001	461,781
1851	229,526	35,457	23,316	146,204	424,503	457,624
1852	246,632	33,336	31,868	182,434	494,000	576,772
1853	219,868	33,704	34,697	227,631	515,900	613,858
1854	115,468	13,310	5,147	72,975	206,900	240,655
1855	219,111	11,914	3,255	124,004	358,284	302,125
1856	233,200	4,071	502	222,542	460,315	475,385
1857	209,727	....	4,097	104,322	318,146	263,141
1858	332,174	....	8,051	172,674	512,899	454,831

1859	208,854	....	8,970	93,345	311,169	250,872
1860	438,076	....	29,915	249,069	717,060	710,138
1861	744,484	....	10,571	277,679	1,032,734	1,054,295
1862	881,350	....	2,174	276,237	1,159,761	1,777,299
1863	632,867	....	6,180	222,304	861,351	846,446
1864	497,848	....	17,485	122,366	637,699	106,883
1865	321,403	....	1,472	110,364	433,239	413,831
1866	238,818	....	17	82,643	321,478	280,166
1867	304,962	....	349	83,414	388,725	332,588
1868	311,695	....	2,150	105,795	419,640	390,852
1869	496,512	....	12	148,721	645,245	636,670
1870	510,416	....	....	127,172	637,588	575,684
1871	576,004	....	452	133,216	709,672	678,450
1872	330,591	....	61	62,640	393,292	356,917
1873	738,544	....	100	57,283	795,927	682,827
1874	650,161	....	62	108,289	758,512	726,702
1875	701,174	....	....	34,418	735,592	686,709
1876	377,548	....	....	22,867	400,415	357,683

NOTE.—Office at Black Rock abolished in 1857.

TABLE showing the tendency of lockages upon the Erie canal at various points, for a series of years, as follows:

YEAR.	Lock No. 1, Albany.	Port Schuyler side-cut lock.	West Troy side-cut.	Total to and from the Hudson river.	Lock three miles west of Schenectady.	Syracuse lock.	Geddes lock.	First lock east of Rochester (Brighton lock).	Lockport locks.	Black Rock guard lock.	Junction lock, Champlain canal.
1837....	24,618	......	13,942	38,560	21,055	18,181	15,207	......	10,041	11,173	....
1838....	23,478	......	16,418	39,896	25,962	20,383	18,557	......	......	......	....
1839....	......	......	......	......	24,234	......	......	......	......	......	....
1840....	......	......	......	......	26,987	......	......	......	......	......	....
1841....	......	......	......	......	30,320	......	......	......	......	......	....
1842....	......	......	......	......	22,869	19,397	16,069	......	11,697	11,097	8,813
1843....	17,326	3,258	12,089	32,673	23,184	21,165	17,447	12,658	11,697	12,769	8,164
1844....	20,845	4,243	13,749	38,837	28,219	25,198	20,044	14,167	12,994	14,554	10,099
1845....	18,963	9,127	12,968	41,058	30,452	28,203	23,052	13,747	15,665	14,296	8,647
1846....	18,169	11,495	16,196	45,860	33,431	32,212	25,225	14,699	20,333	16,343	9,771
1847....	23,743	15,363	15,124	54,230	43,957	39,149	31,650	23,476	26,327	27,295	10,174
1848....	19,519	6,940	16,255	42,714	34,911	34,760	29,066	18,675	20,255	19,470	9,465
1849....	19,355	9,888	17,609	46,852	36,918	38,634	28,740	20,617	20,124	18,181	10,397
1850....	18,382	8,984	24,056	51,422	38,444	41,170	27,799	20,299	21,111	20,103	12,801
1851....	19,907	10,054	26,838	56,799	40,396	......	29,535	23,054	25,094	20,515	13,861
1852....	20,178	8,086	29,104	57,368	41,572	38,933	29,952	22,434	25,164	20,830	13,478
1853....	19,940	8,556	25,430	53,826	42,967	35,550	29,332	20,650	20,839	19,476	13,313
1854....	16,258	10,626	19,903	46,787	35,981	32,813	29,088	19,740	23,152	18,632	14,693
1855....	14,622	6,115	17,582	38,319	30,873	29,365	28,858	16,563	20,752	18,245	13,528
1856 ...	12,498	10,742	22,804	46,044	31,223	28,547	20,788	14,092	18,538	15,894	15,873
1857....	7,494	5,454	15,826	28,374	22,182	25,699	16,337	12,290	16,374	12,503	9,291
1858....	12,412	5,824	16,138	33,774	23,474	27,054	16,957	13,288	15,117	13,050	8,912
1859....	6,276	6,508	15,095	27,879	21,905	22,547	*	11,080	11,700	10,695	9,240
1860....	8,959	9,213	16,437	34,609	32,439	32,862	21,880	18,337	19,585	16,815	9,159

Table showing the tendency of lockages, etc. — (Continued).

YEAR.	Lock No. 1, Albany.	Port Schuyler side-cut lock.	West Troy side-cut.	Total to and from the Hudson river.	Lock three miles west of Scenectady.	Syracuse lock.	Geddes lock.	First lock east of Rochester (Brighton lock).	Lockport locks.	Black Rock guard lock.	Junction lock Champlain canal.
1861....	8,399	9,420	16,775	34,594	31,179	29,510	24,203	20,553	25,261	20,549	6,607
1862....	11,719	9,351	19,175	40,245	34,977	38,409	31,019	24,597	30,906	25,806	7,889
1863....	9,397	8,123	18,497	35,017	30,071	30,532	26,328	20,962	23,801	20,936	10,816
1864....	7,150	6,627	15,207	28,993	28,742	26,163	22,547	18,910	19,662	16,301	11,118
1865....	6,263	7,169	15,974	29,406	26,037	23,332	20,203	16,328	19,589	13,756	12,545
1866....	6,105	5,971	18,150	30,226	29,882	25,193	23,806	18,656	19,764	19,207	10,540
1867....	6,993	6,572	15,073	28,636	28,654	24,849	21,452	18,861	18,930	16,200	9,752
1868....	4,983	6,583	16,541	28,107	32,107	23,918	21,502	17,348	17,755	14,894	9,805
1869....	3,776	6,085	13,819	......	24,625	24,834	21,654	14,605	15,740	13,377	8,709
1870....	4,238	6,530	16,062	26,830	25,124	26,285	21,241	15,234	16,623	14,334	10,075
1871....	5,385	6,444	18,135	29,964	29,725	29,592	24,779	19,469	21,062	17,510	9,436
1872....	6,564	7,328	15,396	29,288	28,035	30,845	24,274	19,001	21,956	17,467	11,235
1873....	6,347	6,233	14,626	27,206	24,960	28,234	23,551	19,569	21,662	20,027	9,646
1874....	6,882	6,485	16,342	29,719	23,237	23,245	21,669	15,972	17,578	16,421	8,008
1875....	7,093	3,200	15,926	26,219	18,761	19,241	17,664	14,137	15,059	12,878	8,064
1876....	5,585	2,678	14,831	23,094	16,671	16,152	15,795	12,071	15,353	10,227	9,260

*Lockages omitted to be kept in 1859.

TRADE OF THIS STATE AND OF THE WESTERN STATES.

The following table shows for each of the preceding forty years how much of the tolls received in each year of navigation was on "products from Western States," how much was on "products of this State," and how much was on "merchandise going from tide water."

YEAR.	TOLLS ON AGRICULTURAL AND OTHER PRODUCTS.		Merchandise from tide water.	Total on all canals.
	From other States.	From this State.		
1837	$160,116	$723,756	$408,751	$1,292,623
1838	247,241	803,967	539,703	1,590,911
1839	310,072	756,723	549,587	1,616,382
1840	427,480	865,758	482,510	1,775,348
1841	500,630	924,326	609,927	2,034,883
1842	467,792	827,841	453,565	1,749,198
1843	623,297	892,151	566,142	2,081,590
1844	676,032	1,088,274	682,068	2,446,374
1845	677,922	1,246,678	727,582	2,646,182
1846	1,013,478	1,100,699	641,929	2,756,106
1847	1,583,500	1,213,761	837,943	3,635,204
1848	1,157,905	1,213,060	881,402	3,252,267
1849	1,101,860	1,261,229	905,137	3,268,226
1850	1,137,731	1,222,877	913,291	3,273,899
1851	1,251,390	1,027,124	1,051,213	3,329,722
1852	1,304,018	1,013,990	799,650	3,118,244
1853	1,383,422	945,968	875,328	3,204,718
1854	985,647	1,007,847	770,072	2,773,566
1855	1,148,098	857,359	799,620	2,805,077
1856	1,247,765	743,668	756,770	2,748,202
1857	899,380	674,057	472,204	2,045,641
1858	944,109	888,259	278,386	2,110,754
1859	813,154	682,405	228,386	1,723,945
1860	1,650,978	991,216	367,353	3,009,597
1861	2,682,969	957,697	268,119	3,908,785
1862	3,722,208	1,093,533	372,202	5,188,943
1863	3,279,711	987,374	378,122	4,645,207
1864	2,667,436	907,941	408,605	3,983,982
1865	2,506,974	962,950	370,031	3,839,955
1866	2,893,386	1,055,521	487,732	4,436,639
1867	2,697,752	862,256	528,050	4,088,058
1868	2,668,920	972,422	605,221	4,246,563
1869	2,407,158	944,592	426,751	3,778,501
1870	1,632,362	643,789	335,427	2,611,578
1871	1,982,087	798,844	319,907	3,100,838
1872	1,951,851	755,011	365,549	3,072,411

YEAR.	TOLLS ON AGRICULTURAL AND OTHER PRODUCTS.		Merchandise from tide water.	Total on all canals.
	From other States.	From this State.		
873	$1,894,506	$819,017	$263,195	$2,976,718
874	1,765,728	638,143	233,200	2,637,071
875	1,095,610	331,023	163,399	1,590,032
876	905,775	201,446	132,783	1,340,004

The statement below gives the total tonnage arriving at tide water y way of the Erie canal for a series of forty years, distinguishing etween the tonnage from this State and the tonnage from Western tates and Canada :

YEAR.	From Western States, tons.	From this State, tons.	Total tons.
837	56,255	321,251	587,506
838	83,233	336,016	419,249
839	121,671	264,596	386,267
840	158,148	309,167	467,315
841	224,176	308,344	532,520
842	221,477	258,672	480,149
843	256,376	378,969	635,345
844	308,025	491,791	799,816
845	304,551	655,039	959,590
846	506,830	600,662	1,107,270
847	912,840	618,412	1,431,252
848	650,154	534,183	1,184,337
849	768,659	498,068	1,266,724
850	773,858	598,001	1,371,859
851	966,993	541,684	1,508,677
852	1,151,978	492,721	1,644,699
853	1,213,690	637,748	1,851,438
854	1,100,526	602,167	1,702,693
855	1,092,876	327,839	1,420,715
856	1,212,550	374,580	1,587,130
857	918,998	197,201	1,117,199
858	1,273,099	223,588	1,496,697
859	1,036,634	414,699	1,451,333
860	1,896,975	379,086	2,276,061
861	2,158,425	291,184	2,449,609
862	2,594,837	322,257	2,917,094
863	2,279,252	368,437	2,647,689
864	1,907,136	239,498	2,146,634
865	1,903,642	173,538	2,077,180
866	2,235,716	287,948	2,523,664
867	2,129,405	96,707	2,226,112

YEAR.	From Western States, tons.	From this State, tons.	Total tons.
1868	2,215,222	163,350	2,378,572
1869	2,028,568	229,121	2,257,689
1870	2,048,947	241,751	2,290,698
1871	2,276,393	372,484	2,648,877
1872	2,456,022	214,383	2,670,405
1873	2,527,068	58,287	2,585,355
1874	2,206,604	263,693	2,470,297
1875	1,664,056	250,886	1,914,942
1876	1,402,768	342,552	1,745,320

The following statement corroborates the preceding ones as to the diminution of the surplus production of our own State. The results in the second column are arrived at by assuming that all the flour and wheat from the Western States arrived at tide water, and by deducting it from the total arrival at tide water. In turning wheat into barrels, the practice has been followed of calling five bushels a barrel. It is not strictly accurate, but as it is done for the whole series, it answers for the purpose of a comparison of years. The average price of flour each year at Albany is also given :

YEAR.	Barrels from Western States.	Barrels from this State.	Barrels arriving at tide water.	Price.
1837	284,902	747,676	1,032,578	$9 50
1838	552,283	637,036	1,189,319	8 50
1839	683,509	425,544	1,109,053	5 50
1840	1,066,615	1,080,084	2,146,699	4 84
1841	1,232,987	596,657	1,829,644	6 00
1842	1,146,292	543,064	1,776,051	5 18
1843	1,586,645	670,532	2,239,177	4 56
1844	1,727,714	746,939	2,474,653	4 50
1845	1,553,740	1,288,416	2,842,156	5 57
1846	2,723,474	929,330	3,652,804	5 05
1847	3,989,232	791,106	4,780,338	6 84
1848	2,983,688	770,114	3,753,802	6 58
1849	2,842,821	886,938	3,739,759	5 00
1850	3,084,959	905,277	3,990,236	5 00
1851	3,495,734	895,467	3,991,201	4 00
1852	3,937,366	877,731	4,815,097	4 58
1853	3,992,289	957,984	4,950,263	5 77
1854	1,586,961	267,252	1,954,213	9 25
1855	2,506,780	....	1,988,226	9 75
1856	3,209,741	276,034	3,485,775	7 60
1857	2,222,092	....	1,988,226	6 53

YEAR.	Barrels from Western States.	Barrels from this State.	Barrels arriving at tide water.	Price.
1858..........	3,788,069	....	3,563,901	$5 50
1859..........	2,210,620	....	1,925,402	5 70
1860..........	4,344,387	737,321	5,081,708	5 75
861..........	6,712,233	745,022	7,457,255	5 50
862..........	7,516,397	843,685	8,360,082	6 00
863..........	5,575,233	495,119	6,070,352	6 00
864..........	4,005,742	337,122	4,342,864	10 00
865..........	2,751,564	329,862	3,081,426	8 13
866..........	2,003,703	103,834	2,107,537	10 70
867..........	2,226,107	*117,163	2,343,270	10 70
868..........	2,812,005	....	2,731,234	11 38
869..........	4,210,619	85,778	4,296,397	6 28
870..........	4,117,078	....	3,964,834	5 63
871..........	4,626,820	268,577	†4,587,997	6 52
872..........	2,630,186	....	‡2,420,164	7 50
873..........	5,306,835	....	4,580,187	7 25
874..........	5,056,335	....	4,924,360	7 00
875..........	4,852,369	....	‡4,606,637	7 50
876..........	2,661,379	....	2,394,700	7 00

The number and tonnage capacity of the boats built and regisered in each year since 1843 has been as follows:

YEAR.	Boats.	Tons.	Average of boats.
844	378	24,360	64 tons.
845	297	19,781	67 "
846	477	34,630	73 "
847	1,466	110,745	76 "
848	457	33,815	74 "
849	215	16,370	76 "
850	152	12,260	80 "
851	213	18,450	87 "
852	271	23,945	88 "
853	590	57,280	97 "
854	760	80,365	105 "
855	471	48,220	102 "
856	364	38,990	107 "
857	329	37,510	114 "
858	255	27,830	109 "
859	206	20,150	98 "
860	403	48,355	120 "
861	619	95,230	154 "

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* This result is partly estimated.

† The quantity of wheat and flour from the Western States which failed to reach tide water in onsequence of the sudden closing of the canals, was equivalent to 307,400 barrels.

‡ Same remarks as regards 1871, 1872 and 1873.

YEAR.	Boats.	Tons.	Average of boats.
1862	850	142,470	168 tons.
1863	771	119,170	177 "
1864	399	56,235	141 "
1865	200	28,795	144 "
1866	485	74,630	154 "
1867	520	80,360	155 "
1868	387	64,470	167 "
1869	298	46,650	157 "
1870	269	42,365	157 "
1871	194	29,225	151 "
1872	326	57,925	178 "
1873	433	79,740	184 "
1874	249	45,960	183 "
1875	102	17,435	171 "
1876	75	10,825	144 "

An interesting exhibit of the average tonnage of the boats, the time necessary to make a passage, and the cost to bring a barrel of flour from Buffalo to Albany, of the lockages at Alexander's lock, and the total tons delivered at tide water from the Erie canal, is as follows:

YEAR.	Average cargo of boat.	Days' time between Buffalo and Albany.	Toll and freight on a barrel of flour.	Lockages at Alexander's lock.	Tons delivered at tide water from Erie canal.
			Cents.		
1845	41	9	71	30,320	532,520
1846	49	7½	60	28,219	799,816
1847	67	10½	77	43,957	1,431,252
1848	71	9	58	34,911	1,184,337
1849	68	8¾	56	36,918	1,266,724
1850	76	9	58	38,444	1,554,675
1851	78	8½	49	40,396	1,508,677
1852	80	9	53	41,572	1,644,699
1853	84	9	56	42,967	1,851,438
1854	94	8½	52	35,981	1,702,693
1855	92	8½	52	30,873	1,420,715
1856	100	8½	60	31,223	1,587,130
1857	100	8½	46	22,182	1,117,199
1858	126	8½	34	23,474	1,496,687
1859	143	8½	31	20,274	1,451,333
1860	140	8½	42	32,439	2,276,061
1861	157	8½	46	31,179	2,449,609
1862	167	8½	48	34,977	2,917,094
1863	177	9	45	30,071	2,647,689

YEAR.	Average cargo of boat.	Days' time between Buffalo and Albany.	Toll and freight on a barrel of flour.	Lockages at Alexander's lock.	Tons delivered at tide water from Erie canal.
			Cents.		
1864	150	10	57½	28,742	2,146,634
1865	160	10	51	26,037	2,078,361
1866	170	10	52	29,882	2,523,664
1867	156	10	48	28,654	2,226,112
1868	148	10	48	32,107	2,378,572
1869	183	10	51	24,625	2,257,689
1870	181	10	33	25,124	2,290,698
1871	178	11	40	29,725	2,648,877
1872	190	11	42	28,035	2,670,405
1873	213	11	46½	24,960	2,585,355
1874	197	11	31	24,085	2,470,297
1875	197	11	23	18,761	1,914,942
1876	209	11	22	16,671	1,745,320

CONCLUSION.

The preceding statements and tables show the business of the New York State canals for the navigable year commencing in May and closing in December, 1876.

The results shown, as compared with the previous year, are a loss in tolls of $250,028, and a loss in tonnage of 687,927.

The aggregate tonnage of the two railways connecting the city of New York with Lake Erie, amounted to 12,776,498 tons, being an increase over the previous year of 534,598 tons.

The tonnage of the canals and Central and Erie railways combined amounted to 16,948,627 tons, being an increase over the previous year of 153,131 tons.

Respectfully submitted.

G. W. SCHUYLER,

Auditor.

DOCUMENTS

ACCOMPANYING THE AUDITOR'S REPORT.

DOCUMENTS

ACCOMPANYING THE AUDITOR'S REPORT.

(No. 1.)

STATEMENT showing the whole amount of tolls collected at each office upon the New York canals during the year 1876, *and the amount refunded and paid into the treasury; being an exhibit of the standing of each collector's account.*

ERIE CANAL.

PLACES OF COLLECTION.	Names of Collectors.	RECEIVED.			PAID.		
		Copy fees, fines, sales and treble tolls.	Tolls.	Total at each office.	Toll refunded.	Paid into the treasury.	Total at each office.
New York city	E. A. Lawrence	$18 43	$40,075 00	$40,093 43	$509 36	$39,584 07	$40,093 43
Albany	John McKenna	63 52	23,757 76	23,821 28	604 44	23,216 84	23,821 28
West Troy	James Hamil	6 36	34,740 16	34,746 52	327 60	34,418 92	34,746 52
Schenectady	G. W. Marlette	1 14	4,072 15	4,073 29	31 25	4,042 04	4,073 29
Fultonville	A. Van Epps	....	1,967 83	1,967 83	16 41	1,951 42	1,967 83
Little Falls	A. G. Roof	36	1,306 10	1,306 46	....	1,306 46	1,306 46
Utica	B. H. Smith	8 84	6,188 20	6,197 04	1 36	6,195 68	6,197 04
Rome	T. S. Comstock	36	4,790 69	4,791 05	89 65	4,701 40	4,791 05
Syracuse	J. Pinkerton	1 32	26,522 92	26,524 24	52 73	26,471 51	26,524 24
Montezuma	John Nolan	50	42,711 33	42,711 83	2 99	42,708 84	42,711 83
Palmyra	M. C. Finley	24	9,716 09	9,716 33	25 52	9,690 81	9,716 33
Rochester	H. E. Rochester	1 44	8,664 80	8,666 24	....	8,666 24	8,666 24
Brockport	T. J. Jewett	....	6,909 48	6,909 48	6 35	6,903 13	6,909 48
Albion	H. B. Burleigh	12	5,952 42	5,952 54	....	5,952 54	5,952 54
Medina	Thomas Slack	18	30,740 75	30,740 93	74	30,740 19	30,740 93
Lockport	L. A. Spaulding	12	7,106 74	7,106 86	7 04	7,099 82	7,106 86
Tonawanda	H. B. Murry	....	180,119 58	180,119 58	418 16	179,701 42	180,119 58
Buffalo	John Bissell	87 96	583,556 46	583,644 42	347 85	583,296 57	583,644 42
Salina	C. M. Norton	88	16,323 25	16,324 13	5 42	16,318 71	16,324 13
Oswego	W. C. Richardson	30 25	81,053 58	81,083 83	377 27	80,706 56	81,083 83
Geneva	E. J. Rogers	....	16,053 46	16,053 46	....	16,053 46	16,053 46
Watkins	W. H. Baldwin	....	24,241 60	24,241 60	....	24,241 60	24,241 60
Corning	N. L. Somers	06	840 41	840 47	....	840 47	840 47
Mount Morris	T. J. Gamble	....	58 38	58 38	....	58 38	58 38
Olean	H. W. Rugg	....	454 62	454 62	....	454 62	454 62
Boonville	Thomas S. Jones	....	9,080 72	9,080 72	....	9,080 72	9,080 72
		$222 08	$1,167,004 48	$1,167,226 56	$2,824 14	$1,164,402 42	$1,167,226 56

CHAMPLAIN CANAL.							
Albany	John McKenna	....	$1,407 89	$1,407 89	....	$1,407 89	$1,407 89
West Troy	James Hamil	....	12,456 70	12,456 70	....	12,456 70	12,456 70
Waterford	S. Badgeley	....	17,827 54	17,827 54	$6 12	17,821 42	17,827 54
Fort Edward	John H. Ganley	....	17,078 88	17,078 88	27 44	17,051 44	17,078 88
Whitehall	John Watkins	$1 50	39,884 97	39,886 47	33 72	39,352 75	39,386 47
		$1 50	$88,155 98	$88,157 48	$67 28	$88,090 20	$88,157 48
OSWEGO CANAL.							
New York City	E. A. Lawrence	....	$2,052 57	$2,052 57	....	$2,052 57	$2,052 57
Albany	John McKenna	....	205 90	205 90	....	205 90	205 90
West Troy	James Hamil	....	170 70	170 70	....	170 70	170 70
Salina	C. M. Norton	....	4,911 78	4,911 78	....	4,911 78	4,911 78
Oswego	W. C. Richardson	....	21,505 99	21,505 99	....	21,505 99	21,505 99
		....	$28,846 94	$28,846 94	....	$28,846 94	$28,846 94
CAYUGA AND SENECA CANAL.							
Montezuma	John Nolan	....	$2,906 91	$2,906 91	....	$2,906 91	$2,906 91
Geneva	E. J. Rogers	....	3,250 71	3,250 71	$3 91	3,246 80	3,250 71
Watkins	W. H. Baldwin	....	4,545 74	4,545 74	....	4,545 74	4,545 74
Corning	N. L. Somers	....	270 99	270 99	1 56	269 43	270 99
		....	$10,974 35	$10,974 35	$5 47	$10,968 88	$10,974 35
CHEMUNG CANAL.							
Watkins	W. H. Baldwin	....	$915 21	$915 21	$6 60	$908 61	$915 21
Corning	N. L. Somers	....	2,465 12	2,465 12	....	2,465 12	2,465 12
		....	$3,380 33	$3,380 33	$6 60	$3,373 73	$3,380 33
CHENANGO CANAL.							
Utica	B. H. Smith	....	$1,589 53	$1,589 53	....	$1,589 53	$1,589 53
Oxford	Chas. W. Brown	....	1,651 48	1,651 48	$45 39	1,606 09	1,651 48
		....	$3,241 01	$3,241 01	$45 39	$3,195 62	$3,241 01
GENESEE VALLEY CANAL.							
Rochester	H. E. Rochester	....	$1,400 34	$1,400 34	....	$1,400 34	$1,400 34
Mount Morris	T. J. Gamble	....	5,413 37	5,413 37	$8 48	5,404 89	5,413 37
Olean	H. W. Rugg	....	14,209 10	14,209 10	20 80	14,188 30	14,209 10
		....	$21,022 81	$21,022 81	$29 28	$20,993 53	$21,022 81

STATEMENT No. 1—(*Continued*).

PLACE OF COLLECTION.	Names of Collectors.	RECEIVED.			PAID.		
		Copy fees, fines, sales and treble tolls.	Tolls.	Total at each office.	Toll refunded.	Paid into the treasury.	Total at each office.
BLACK RIVER CANAL.							
Rome	T. S. Comstock	....	$1,919 46	$1,919 46	....	$1,919 46	$1,919 46
Boonville	T. S. Jones	....	14,261 41	14,261 41	$37 69	14,223 72	14,261 41
			$16,180 87	$16,180 87	$37 69	$16,143 18	$16,180 87
ONEIDA RIVER IMPROVEMENT.							
Salina	C. M. Norton	....	$499 18	$499 18	....	$499 18	$499 18
			$499 18	$499 18	....	$499 18	$499 18
SENECA RIVER TOWING-PATH.							
Salina	C. M. Norton	....	$114 30	$114 30	....	$114 30	$114 30
Oswego	W. C. Richardson	....	34 77	34 77	....	34 77	34 77
			$149 07	$149 07	....	$149 07	$149 07
CAYUGA INLET.							
Montezuma	John Nolan	....	$324 75	$324 75	....	$324 75	$324 75
			$324 75	$324 75	....	$324 75	$324 75

RECAPITULATION.

	Received.	Paid.
rie canal	$1,167,226 56	$1,167,226 56
hamplain canal	88,157 48	88,157 48
swego canal	28,846 94	28,846 94
ayuga and Seneca canal	10,974 35	10,974 35
hemung canal	3,380 33	3,380 33
henango canal	3,241 01	3,241 01
enesee Valley canal	21,022 81	21,022 81
lack River canal	16,180 87	16,180 87
neida River improvement	499 13	499 13
eneca River towing-path	149 07	149 07
ayuga inlet	324 75	324 75
	$1,340,003 30	$1,340,003 30

(No. 2.)

STATEMENT showing the tons (2,000 *pounds*) *of each article shipped at each office on the several canals, the total tons at each office, and the total tons of each article at all the offices in* 1876.

OFFICES.	THE FOREST — PRODUCT OF WOOD.						AGRICULTURE — PRODUCT OF ANIMALS.			
	Boards and scantling.	Shingles.	Timber.	Staves.	Wood.	Ashes, pot and pearl.	Pork.	Beef.	Bacon.	Cheese.
ERIE CANAL.										
New York	2,606	......	......	......	......	......	....	..	..	....
Albany	3,177	32	......	88	......	......	10	..	..	....
West Troy	8,378	6	580	615	1,574	......	16	..	..	....
Schenectady	317	......	......	......	1,061	......	....	..	..	2
Fultonville	53	2	......	......	538	......	....	..	..	98
Little Falls	666	......	......	......	......	......	....	..	..	206
Utica	11,395	61	......	......	1,719	......	9	..	..	220
Rome	7,554	84	300	......	5,799	......	....	..	..	....
Syracuse	1,935	25	36	143	1,358	......	15	..	..	....
Montezuma	459	......	......	......	......	......	....	..	..	....
Palmyra	115	......	......	......	555	......	....	..	..	....
Rochester	807	145	......	1,762	686	......	....	..	..	....
Brockport	914	7	......	163	154	......	....	..	..	....
Albion	33	2	......	274	......	......	....	..	..	....
Medina	488	......	......	328	462	165	....	..	..	....
Lockport	236	5	480	......	381	385	....	..	..	....
Tonawanda	275,916	2,750	9,975	1,654	1,078	67	...	..	..	....
Buffalo	95,356	2,146	......	26,877	......	......	3	..	..	....

CHAMPLAIN CANAL.										
Waterford..............	16,554	......	......	......	2,685	......	51	..	..	....
Fort Edward	139,551	13	10,256	2,782	39,684	......	....	..	..	....
Whitehall	172,931	510	1,571	135	2,596	2,640	....	..	..	....
OSWEGO CANAL.										
Salina	4,125	......	1,407	344	772	......	....	..	..	....
Oswego	174,976	856	......	......	......	......	....	..	..	....
CAYUGA & SENECA CANAL.										
Geneva	528	......	54	32	......	......	....	..	..	....
CHEMUNG CANAL.										
Watkins	3,359	......	......	......	......	......	....	..	..	....
Corning................	12,262	36	166	......	....	......	....	..	..	....
CHENANGO CANAL.										
Oxford.................	421	......	......	......	333	......	....	..	..	....
GENESEE VALLEY CANAL.										
Mount Morris...........	2,391	19	575	2,159	11,508	......	....	..	..	....
Olean	24,253	258	833	......	1,089	......	....	..	..	....
BLACK RIVER CANAL.										
Boonville	50,169	12	4,960	......	10,581	......	....	..	..	84
	1,011,925	6,969	31,193	37,356	84,613	3,257	104	..	..	610

STATEMENT No. 2—(*Continued*)—AGRICULTURE.

OFFICES.	PRODUCT OF ANIMALS.				VEGETABLE FOOD.				
	Butter.	Lard, tallow and lard oil.	Wool.	Hides.	Flour.	Wheat.	Rye.	Corn.	Corn meal
ERIE CANAL.									
New York	....	......	22	396	11	213	......	....	.....
Albany	....	1	....	8	54	174	......	713	.....
West Troy	....	3	149	294	1,295	1,136	......	717	.....
Schenectady	1	......	....	....	177	120	227	183	.....
Fultonville	1	48	....	....	40	....	......	....	17
Little Falls	....	......	....	....	112	....	......	....	.....
Utica	121	3	1	17	184	188	......	3,266	.....
Rome	....	......	....	2	14	....	......	....	.....
Syracuse	....	......	....	....	784	1,780	338	2,647	.....
Montezuma	1	......	....	....	144	7,931	20	143	.....
Palmyra	....	1	....	....	......	180	2	....	.....
Rochester	....	......	....	....	19	96	7	66	.....
Brockport	....	......	....	....	2	923	32	....	.....
Albion	....	......	31	....	......	1,578	......	....	.....
Medina	....	......	3	....	11	716	......	....	.....
Lockport	....	......	....	....	1,656	3	......	....	.....
Tonawanda	....	......	....	....	......	....	......	....	.....
Buffalo	....	20	....	....	231	377,317	12,205	356,064	.....
CHAMPLAIN CANAL.									
Waterford	....	......	50	....	54	....	159	87	.....
Fort Edward	....	......	....	....	4	....	148	2	.....
Whitehall	....	......	5	....	......	....	......	....	.....

OSWEGO CANAL.									
Salina	....	......	....	....	2,917	375	......	....	.....
Oswego	....	......	....	....	967	21,890	5,703	1,324	.....
CAYUGA AND SENECA CANAL.									
Geneva	....	......	....	....	13	1,530	1,108	....	.....
CHEMUNG CANAL.									
Watkins	....	......	....	....	456	....	......	....	.....
Corning	....	......	....	....	......	....	......	....	.....
CHENANGO CANAL.									
Oxford	....	......	....	....	......	....	......	....	.....
GENESEE VALLEY CANAL.									
Mount Morris	....	......	....	....	145	226	......	42	8
Olean	....	......	....	....	......	....	......	....	.....
BLACK RIVER CANAL.									
Boonville	4	......	....	....	......	....	......	....	.....
	128	76	261	717	9,290	416,376	19,949	365,254	25

STATEMENT No. 2 — (*Continued*) — AGRICULTURE.

OFFICES.	VEGETABLE FOOD.							
	Barley.	Barley malt.	Oats.	Bran and ship stuffs.	Peas and beans.	Apples.	Potatoes.	Dried fruit.
ERIE CANAL.								
New York	36	......	......	......	......	......	......	.....
Albany	216	......	562	53	......	......	......	.....
West Troy	24	172	598	71	......	146	1,055	.....
Schenectady	....	1,553	11	8	......	270	8	.....
Fultonville	....	12,642	103	66	3	44	65	.....
Little Falls	....	26	......	......	......	30	51	.....
Utica	276	......	59	482	51	89	1,434	4
Rome	....	......	143	5	......	27	1,290	.....
Syracuse	463	379	1,893	275	......	537	171	.....
Montezuma	4,872	4,698	14,351	95	55	6,295	611	27
Palmyra	409	796	1,469	......	29	4,625	4,449	19
Rochester	32	529	34	12	5	3,477	52	.....
Brockport	7,436	......	2,621	......	381	2,102	51	10
Albion	2,292	......	344	......	93	5,222	54	31
Medina	2,280	......	224	6	200	7,050	117	.....
Lockport	363	586	19	353	12	2,081	14	.....
Tonawanda	....	......	......	......	......	161	48	.....
Buffalo	6,335	3,659	26,488	796	25	2	......	.....
CHAMPLAIN CANAL.								
Waterford	243	......	220	14	......	......	8,677	.....
Fort Edward	18	......	......	......	......	70	10,792	.....
Whitehall	4,377	......	58	......	......	......	7,757	.....

OSWEGO CANAL.								
Salina	....	......	38	1,555	......	261	205	.....
Oswego	63,336	558	177	1,703	4,372	15	......	.....
CAYUGA AND SENECA CANAL.								
Geneva	3,116	221	2,640	......	......	601	......	.....
CHEMUNG CANAL.								
Watkins	200	617	66	......	......	......	......	.....
Corning	....	......	......	......	......	......	......	.....
CHENANGO CANAL.								
Oxford	....	......	......	......	......	......	......	.....
GENESEE VALLEY CANAL.								
Mount Morris	170	......	29	138	......	250	......	.....
Olean	....	......	......	......	......	......	......	.....
BLACK RIVER CANAL.								
Boonville	....	......	......	......	......	......	2,117	.....
	96,494	26,436	52,147	5,632	5,226	33,355	34,018	91

STATEMENT No. 2 — (*Continued*) — AGRICULTURE AND MANUFACTURES.

OFFICES.	ALL OTHER AGRICULTURAL PRODUCTS.						Domestic spirits.	Oil meal and cake.	Leather.	Furniture	Bar and pig lead.
	Cotton.	Unmanufac'd tobacco.	Hemp.	Clover and grass seed	Flax seed.	Hops.					
ERIE CANAL.											
New York	124	......	....	......	......	..	....	......	....	58	.....
Albany	....	......	....	......	......	..	....	......	....	23	.....
West Troy	301	......	....	......	582	..	....	875	....	61	34
Schenectady	....	......	15	......	......	..	....	1,785	....	11	.....
Fultonville	....	......	....	......	......	1	....	......	25	8	.....
Little Falls	....	......	....	......	......	..	....	......	76	18	.....
Utica	21	......	....	......	......	..	....	......	....	35	.....
Rome	....	18	....	......	......	..	....	......	....	1	.....
Syracuse	....	......	....	......	......	..	....	......	7	37	.....
Montezuma	....	......	....	......	111	..	....	32	....	8	.....
Palmyra	....	......	....	......	......	..	....	......	....	6	.....
Rochester	....	4	....	......	......	..	....	......	....	16	.....
Brockport	5	......	....	......	......	..	....	......	....	3	.....
Albion	....	......	....	......	......	..	....	......	....	1	.....
Medina	....	......	....	......	......	..	83	......	....	2	.....
Lockport	20	......	....	......	......	..	16	......	....	13	.....
Tonawanda	....	......	....	......	......	..	....	......	....	....	.....
Buffalo	....	......	....	29	......	..	80	......	....	....	.....
CHAMPLAIN CANAL.											
Waterford	53	......	....	......	......	..	....	......	....	6	.....
Fort Edward	....	......	....	......	......	..	....	......	....	6	.....
Whitehall	....	......	....	......	......	..	....	......	....	2	.....

OSWEGO CANAL.											
Salina	....	......	....	......	......	..	....	......	....	....	.....
Oswego	....	18	....	......	......	..	....	......	....	3	.....
CAYUGA AND SENECA CANAL.											
Geneva................	....	......	....	......	1	..	....	12	....	....	.....
CHEMUNG CANAL.											
Watkins	....	......	....	......	......	..	....	......	....	....	.....
Corning....	....	......	....	......	......	..	....	......	....	....	.....
CHENANGO CANAL.											
Oxford................	....	......	....	.....	......	..	....	......	....	....	.....
GENESEE VALLEY CANAL.											
Mount Morris............	....	......	5	......	......	.	....	......	....	2	.....
Olean................	....	......	....	......	......	..	....	......	....	....	.....
BLACK RIVER CANAL.											
Boonville	....	......	.....	......	......	..	....	......	....	....	.....
	524	40	20	29	694	1	179	2,704	108	320	34

STATEMENT No. 2—(*Continued*)—MANUFACTURES AND MERCHANDISE.

OFFICES.	Pig iron.	Bloom and bar iron.	Castings and iron ware.	Domestic woolens.	Domestic cottons.	Domestic salt.	Foreign salt.	Sugar.
ERIE CANAL.								
New York	2,161	......	56	......	......	....	1,094	1,326
Albany	982	......	510	......	......	153	1	50
West Troy	7,575	8,071	483	......	......	348	539	1,513
Schenectady	......	......	......	......	......	....	......	....
Fultonville	58	......	......	......	......	2	......	....
Little Falls	......	......	79	2	......	....	......	....
Utica	14,596	......	154	......	......	2,315	6	41
Rome	672	375	......	......	......	....	......	....
Syracuse	......	352	26	......	......	35,603	......	7
Montezuma	386	......	21	......	......	11,784	......	....
Palmyra	......	......	......	......	......	....	......	....
Rochester	......	......	11	......	......	32	......	....
Brockport	......	......	111	......	......	....	......	....
Albion	......	......	1	......	......	....	......	....
Medina	151	......	16	......	......	....	......	....
Lockport	......	159	40	......	1	....	......	....
Tonawanda	......	......	......	......	......	553	310	....
Buffalo	223	10	......	......	......	19	41	4
CHAMPLAIN CANAL.								
Waterford	597	361	87	......	......	1,957	1,114	159
Fort Edward	1,017	......	8	......	......	....	......	....
Whitehall	16,108	7,177	3	......	......	....	......	....

Salina	......	......	......	......	......	56,555	......	260
Oswego	......	......	......	......	......	1,398	......	......
CAYUGA AND SENECA CANAL.								
Geneva	146	......	......	......	......	....	......	......
CHEMUNG CANAL.								
Watkins	......	......	......	......	......	....	......	......
Corning	......	......	......	......	......	....	......	......
CHENANGO CANAL.								
Oxford	......	......	......	......	......	156	......	......
GENESEE VALLEY CANAL.								
Mount Morris	......	......	......	......	......	5	......	......
Olean	......	......	......	......	......	85	......	......
BLACK RIVER CANAL.								
Boonville	......	......	......	......	......	....	......	......
	44,672	16,505	1,606	2	1	110,965	3,105	3,360

STATEMENT No. 2—(*Continued*)—MERCHANDISE AND OTHER ARTICLES.

OFFICES.	Molasses.	Coffee.	Nails, spikes and Horse shoes.	Iron and steel.	Railroad iron.	Flint enamel, crockery and glassware.	All other merchandise.	Live cattle, hogs and sheep.	Stone, lime and clay.
ERIE CANAL.									
New York	388	50	725	933	154	168	10,734	......	9,922
Albany	22	......	2	2	201	25	1,026	3	3,819
West Troy	1,678	21	707	2,310	3,603	112	8,735	......	41,819
Schenectady	......	......	......	259	......	......	14	......	1,357
Fultonville	......	......	1	28	......	......	944	......	420
Little Falls	......	......	......	1	......	......	469	......	....
Utica	20	......	10	86	133	7	1,526	......	2,886
Rome	......	......	......	56	3,999	53	42	......	6,177
Syracuse	1	......	......	77	454	194	3,792	......	5,753
Montezuma	......	......	......	2	......	349	22	......	2,022
Palmyra	......	......	......	......	......	186	245	......	....
Rochester	......	......	......	71	12	41	135	......	1,583
Brockport	......	......	......	37	......	3	149	......	11,835
Albion	......	......	......	......	......	......	7	......	18,661
Medina	......	......	......	......	......	......	65	......	24,119
Lockport	......	......	......	......	......	268	739	......	5,041
Tonawanda	......	......	......	......	......	......	......	......	1,502
Buffalo	......	......	2	......	......	24	305	......	3,806
CHAMPLAIN CANAL.									
Waterford	3,732	......	724	565	3,135	8	5,466	......	11,546
Fort Edward	......	......	......	36	......	......	272	......	34,241

Salina	......	......	......	......	......	......	580	......	140
Oswego	......	......	......	......	......	1	27	......	740
CAYUGA & SENECA CANAL.									
Geneva	......	......	......	......	......	1	......	......	4,515
CHEMUNG CANAL.									
Watkins	......	......	......	......	......	......	......	......	....
Corning	......	......	......	......	......	......	......	......	....
CHENANGO CANAL.									
Oxford	......	......	......	......	......	......	......	......	978
GENESEE VALLEY CANAL.									
Mount Morris	......	......	......	......	......	......	28	......	799
Olean	......	......	......	......	......	......	......	......	....
BLACK RIVER CANAL.									
Boonville	......	......	......	......	......	......	......	......	....
	5,841	71	2,181	4,486	11,691	1,575	35,738	3	200,938

STATEMENT No. 2 — (*Continued*) — OTHER ARTICLES.

OFFICES.	Gypsum.	Anthracite coal.	Bituminous coal.	Copper ore.
ERIE CANAL.				
New York	1,310	72,810	....	.....
Albany	......	32,068	113	.....
West Troy	......	228,083	....	.....
Schenectady	30	....	....	.....
Fultonville	......	15	....	.....
Little Falls	......	....	....	.....
Utica	403	8,115	....	.....
Rome	108	5	....	.....
Syracuse	6,636	40,480	6,469	.....
Montezuma	5,617	156,088	8,460	.....
Palmyra	......	....	....	.....
Rochester	554	1,501	44	.....
Brockport	......	....	....	.....
Albion	......	5	....	.....
Medina	......	3	....	.....
Lockport	......	168	....	.....
Tonawanda	......	457	....	.....
Buffalo	......	....	19,153	.....
CHAMPLAIN CANAL.				
Waterford	369	138,341	4,849	.....
Fort Edward	5	2,316	....	.....
Whitehall	......	....	....	.....

OSWEGO CANAL.				
Salina	......	712	....	.....
Oswego	......	80	....	.....
CAYUGA AND SENECA CANAL.				
Geneva	1,191	74,672	46,829	.....
CHEMUNG CANAL.				
Watkins	......	....	191,394	.....
Corning	......	....	....	.....
CHENANGO CANAL.				
Oxford	483	3,445	13	.....
GENESEE VALLEY CANAL.				
Mount Morris	70	10	....	.....
Olean	......	....	....	.....
BLACK RIVER CANAL.				
Boonville	......	....	....	.....
	16,776	759,374	277,324	.....

STATEMENT No. 2—(*Continued*)—OTHER ARTICLES.

OFFICES.	Iron ore.	Sundries.	Total.	Total each canal.
ERIE CANAL.				
New York	....	880	106,177	
Albany	....	4,445	48,533	
West Troy	8,047	55,344	387,670	
Schenectady	....	34,595	42,004	
Fultonville	....	10,210	25,432	
Little Falls	....	1,307	3,043	
Utica	212	3,887	54,032	
Rome	....	1,791	28,515	
Syracuse	245	13,010	125,922	
Montezuma	....	3,412	228,016	
Palmyra	....	318	13,404	
Rochester	....	1,638	13,371	
Brockport	....	284	27,223	
Albion	....	91	28,720	
Medina	....	23	36,512	
Lockport	....	121	13,160	
Tonawanda	....	743	295,214	
Buffalo	....	10,254	941,474	
				2,418,422
CHAMPLAIN CANAL.				
Waterford	7,533	58,720	263,111	
Fort Edward	3,620	5,672	250,513	
Whitehall	153,873	18,938	396,527	
				910,151

OSWEGO CANAL.				
Salina	....	11,184	81,430	
Oswego	....	10,756	288,900	
				370,330
CAYUGA AND SENECA LAKE.				
Geneva	....	54	137,264	
				137,264
CHEMUNG CANAL.				
Watkins	....	5,892	201,984	
Corning	....	....	12,464	
				214,448
CHENANGO CANAL.				
Oxford	....	398	6,227	
				6,227
GENESEE VALLEY CANAL.				
Mount Morris	....	2,263	20,842	
Olean	....	....	26,518	
				47,360
BLACK RIVER CANAL.				
Boonville	....	....	67,927	67,927
	173,530	256,230	4,172,129	4,172,129

(No. 3.)

STATEMENT showing the value of each article shipped at each office on the several canals, the total value at each office, the value of each article at all the offices, and the total on each canal in 1876.

OFFICES.	THE FOREST — PRODUCT OF WOOD.					
	Boards and scantling.	Shingles.	Timber.	Staves.	Wood.	Ashes, pot and pearl.
ERIE CANAL.						
New York	$26,588	....	....	....	....	....
Albany	32,402	$893	....	$1,750	....	....
West Troy	85,451	176	$10,150	12,306	$3,372	....
Schenectady	5,072	....	....	....	1,895	....
Fultonville	639	90	....	....	960	....
Little Falls	7,191	....	....	....	....	....
Utica	82,047	2,450	....	....	3,684	....
Rome	54,396	1,683	748	....	14,497	....
Syracuse	20,896	948	172	1,433	2,910	....
Montezuma	4,955	....	....	....	....	....
Palmyra	762	....	....	....	793	....
Rochester	7,261	4,652	....	17,622	1,470	....
Brockport	12,615	274	....	2,616	330	....
Albion	360	45	....	1,096	....	....
Medina	5,860	....	....	676	825	$300
Lockport	1,697	100	8,402	....	544	770
Tonawanda	3,310,994	66,014	149,632	33,085	1,925	446
Buffalo	743,782	51,501	....	322,520	....	....

Waterford	168,848	....	....	....	5,754	....
Fort Edward	1,004,769	300	51,280	13,910	28,346	....
Whitehall	2,282,686	12,249	15,709	2,025	5,562	3,360
OSWEGO CANAL.						
Salina	29,712	....	70,396	3,441	1,375	....
Oswego	1,574,783	20,541	....	....	....	....
CAYUGA AND SENECA CANAL.						
Geneva	3,170	....	54	640	....	....
CHEMUNG CANAL.						
Watkins	20,154	....	....	....	....	....
Corning	73,570	624	996	....	....	....
CHENANGO CANAL.						
Oxford	5,053	....	....	....	476	....
GENESEE VALLEY CANAL.						
Mount Morris	17,215	776	6,063	6,049	20,550	....
Olean	132,000	10,000	3,000	....	5,000	....
BLACK RIVER CANAL.						
Boonville	361,217	194	27,280	....	15,116	....
	$10,076,145	$173,510	$343,882	$419,169	$115,384	$4,876

STATEMENT No. 3 — (*Continued*) — AGRICULTURE.

OFFICES.	PRODUCT OF ANIMALS.							
	Pork.	Beef.	Bacon.	Cheese.	Butter.	Lard, tallow and lard oil.	Wool.	Hides.
ERIE CANAL.								
New York	....	....	....	....	....	....	$17,760	$43,604
Albany	$1,240	....	....	....	....	$248	....	898
West Troy	2,000	....	....	....	....	765	118,960	32,335
Schenectady	....	....	....	$366	$298	....	....	....
Fultonville	....	....	....	23,549	309	11,442	....	....
Little Falls	....	....	....	53,678	....	....	....	....
Utica	1,008	....	....	52,801	72,899	606	1,800	1,670
Rome	....	....	....	....	....	....	....	750
Syracuse	1,584	....	....	....	....	....	....	....
Montezuma	....	....	....	....	253	46	....	....
Palmyra	....	....	....	....	470	....	....	....
Rochester	....	....	....	....	....	....	....	....
Brockport	....	....	....	....	....	....	....	....
Albion	....	....	....	....	....	....	18,678	....
Medina	....	....	....	....	....	....	2,100	....
Lockport	....	....	....	....	....	....	....	....
Tonawanda	....	....	....	....	....	....	....	....
Buffalo	380	....	....	....	....	4,056	....	....
CHAMPLAIN CANAL.								
Waterford	6,420	....	....	....	....	....	40,320	....
Fort Edward	....	....	....	....	....	....	....	....
Whitehall	....	....	....	....	....	....	2,838	....

Salina..................	....	....	....	....	....	....	....	....
Oswego	....	....	....	....	....	....	....	....
CAYUGA AND SENECA CANAL.								
Geneva..................	....	....	....	....	....	....	....	....
CHEMUNG CANAL.								
Watkins..................	....	....	....	....	....	....	....	....
Corning..................	....	....	....	....	....	....	....	....
CHENANGO CANAL.								
Oxford	....	....	....	....	....	....	....	....
GENESEE VALLEY CANAL.								
Mount Morris............	....	....	....	....	....	....	....	....
Olean	....	....	....	....	....	....	....	....
BLACK RIVER CANAL.								
Boonville................	....	....	....	21,718	2,079	....	....	....
	$12,632	....	....	$152,112	$76,308	$17,163	$202,456	$79,257

STATEMENT No. 3 — (*Continued*) — AGRICULTURE.

OFFICES.	VEGETABLE FOOD.					
	Flour.	Wheat.	Rye.	Corn.	Corn meal.	Barley.
ERIE CANAL.						
New York	$700	$9,940	....	....	....	$1,650
Albany	3,493	8,099	....	$15,280	....	9,912
West Troy	83,916	53,025	....	15,367	....	1,118
Schenectady	13,096	4,800	$6,480	4,581	$465	....
Fultonville	2,928	....	....	....	....	....
Little Falls	7,238	....	....	....	....	....
Utica	13,608	6,255	....	67,658	....	12,858
Rome	903	....	....	....	....	....
Syracuse	50,820	74,201	840	66,187	....	12,538
Montezuma	9,338	343,688	578	3,455	....	131,945
Palmyra	6	7,195	46	....	....	12,769
Rochester	1,239	3,516	173	1,465	....	1,063
Brockport	200	35,418	941	....	....	263,360
Albion	....	68,385	....	....	....	81,179
Medina	728	29,720	....	....	....	69,355
Lockport	107,303	145	....	....	....	9,084
Tonawanda	....	....	....	....	....	....
Buffalo	14,959	14,086,512	326,925	6,550,871	....	229,650
CHAMPLAIN CANAL.						
Waterford	3,528	....	4,826	1,873	....	11,132
Fort Edward	296	....	3,689	650	....	780
Whitehall	....	....	....	....	....	182,361

OSWEGO CANAL.						
Salina	189,070	15,663	....	....	....	....
Oswego	62,685	948,549	162,947	26,513	....	2,770,933
CAYUGA AND SENECA CANAL.						
Geneva	812	58,635	25,850	....	....	97,363
CHEMUNG CANAL.						
Watkins	4,225	....	....	....	....	6,668
Corning	....	....	....	....	....	....
CHENANGO CANAL.						
Oxford	....	....	....	....	....	....
GENESEE VALLEY CANAL.						
Mount Morris	11,424	9,799	....	902	296	4,615
Olean	....	....	....	....	....	....
BLACK RIVER CANAL.						
Boonville	....	....	....	....	....	....
	$582,515	$15,763,545	$533,295	$6,754,802	$761	$3,910,333

STATEMENT No. 3 — (*Continued*) — AGRICULTURE.

OFFICES.	VEGETABLE FOOD.						
	Barley malt.	Oats.	Bran and ship stuffs.	Peas and beans.	Apples.	Potatoes.	Dried fruit.
ERIE CANAL.							
New York	....	....	....	....	....	....	....
Albany	....	$15,818	$1,066	....	....	....	....
West Troy	$12,699	16,805	1,415	....	$2,515	$42,179	....
Schenectady	64,700	273	150	....	3,859	220	....
Fultonville	383,789	2,586	1,319	$137	885	1,294	....
Little Falls	3,000	....	....	....	822	1,252	....
Utica	....	1,289	9,646	3,416	2,384	38,243	$684
Rome	....	3,576	101	....	908	34,418	....
Syracuse	22,308	47,303	49,489	....	12,530	3,994	....
Montezuma	442,150	313,924	1,894	3,688	89,935	13,237	3,283
Palmyra	39,802	36,718	....	1,225	66,067	103,811	1,874
Rochester	27,866	852	238	151	49,666	1,391	....
Brockport	....	65,149	....	22,250	29,002	1,291	1,017
Albion	....	7,541	....	3,121	43,521	1,339	2,545
Medina	....	5,596	150	9,239	50,360	2,748	....
Lockport	34,487	409	7,061	597	28,698	362	....
Tonawanda	....	....	....	....	4,844	1,620	....
Buffalo	279,803	554,602	10,439	1,198	....	54	....
CHAMPLAIN CANAL.							
Waterford	....	6,193	288	....	....	147,073	....
Fort Edward	....	....	....	....	872	268,074	....
Whitehall	....	1,620	....	....	....	168,063	....

OSWEGO CANAL.							
Salina	....	950	31,110	....	5,025	5,859	....
Oswego	52,490	4,420	34,066	145,722	196	....	....
CAYUGA AND SENECA CANAL.							
Geneva	13,000	65,991	....	27	8,012	29	....
CHEMUNG CANAL.							
Watkins	21,300	1,465	....	....	....	....	....
Corning	....	....	....	....	....	....	....
CHENANGO CANAL.							
Oxford	....	....	....	....	....	....	....
GENESEE VALLEY CANAL.							
Mount Morris	....	728	3,312	....	5,026	....	....
Olean	....	....	....	....	....	....	....
BLACK RIVER CANAL.							
Boonville	....	....	....	....	....	49,401	....
	$1,397,364	$1,153,808	$151,744	$190,771	$405,127	$885,952	$9,403

STATEMENT No. 3 — (*Continued*) — AGRICULTURE.

OFFICES.	ALL OTHER AGRICULTURAL PRODUCTS.					
	Cotton.	Unmanufactured tobacco.	Hemp.	Clover and grass seeds.	Flax seed.	Hops.
ERIE CANAL.						
New York	$14,850	....	....	....	....	....
Albany	....	....	....	....	....	....
West Troy	60,200	....	....	....	$34,911	....
Schenectady	....	....	$2,353	....	....	....
Fultonville	....	....	....	....	....	$516
Little Falls	....	....	....	....	....	....
Utica	4,986	$150	....	....	....	....
Rome	....	2,894	....	....	....	....
Syracuse	....	....	....	....	....	....
Montezuma	....	....	....	....	11,135	....
Palmyra	....	....	....	....	....	....
Rochester	....	2,800	....	....	....	....
Brockport	1,000	....	....	$93	....	....
Albion	....	....	....	....	....	....
Medina	....	....	....	....	....	....
Lockport	8,154	....	....	....	....	....
Tonawanda	....	....	....	....	....	....
Buffalo	....	....	....	2,023	....	....
CHAMPLAIN CANAL.						
Waterford	10,680	....	....	....	....	....
Fort Edward	....	....	....	....	....	....
Whitehall	....	....	....	....	....	....

OSWEGO CANAL.						
Salina	....	....	....	....	....	....
Oswego	....	3,630	....	....	....	....
CAYUGA AND SENECA CANAL.						
Geneva	....	....	....	....	31	....
CHEMUNG CANAL.						
Watkins	....	....	....	....	....	....
Corning	....	....	....	....	....	....
CHENANGO CANAL.						
Oxford	....	....	....	....	....	....
GENESEE VALLEY CANAL.						
Mount Morris	....	....	....	103	....	....
Olean	....	....	....	....	....	....
BLACK RIVER CANAL.						
Boonville	....	....	....	....	....	....
	$99,870	$9,474	$2,358	$2,219	$46,077	$516

STATEMENT No. 3 — (*Continued*) — AGRICULTURE.

OFFICES.	PRODUCT OF ANIMALS.							
	Pork.	Beef.	Bacon.	Cheese.	Butter.	Lard, tallow and lard oil.	Wool.	Hides.
ERIE CANAL.								
New York	....	....	....	....	....	....	$17,760	$43,604
Albany	$1,240	....	....	....	....	$248	....	898
West Troy	2,000	....	....	....	....	765	118,960	32,335
Schenectady	....	....	....	$366	$298	....	....	....
Fultonville	....	....	....	23,549	309	11,442	....	....
Little Falls	....	....	....	53,678	....	....	....	....
Utica	1,008	....	....	52,801	72,899	606	1,800	1,670
Rome	....	....	....	....	....	....	....	750
Syracuse	1,584	....	....	....	....	....	....	....
Montezuma	....	....	....	....	253	46	....	....
Palmyra	....	....	....	....	470	....	....	....
Rochester	....	....	....	....	....	....	....	....
Brockport	....	....	....	....	....	....	....	....
Albion	....	....	....	....	....	....	18,678	....
Medina	....	....	....	....	....	....	2,100	....
Lockport	....	....	....	....	....	....	....	....
Tonawanda	....	....	....	....	....	....	....	....
Buffalo	380	....	....	....	....	4,056	....	....
CHAMPLAIN CANAL.								
Waterford	6,420	....	....	....	....	....	40,320	....
Fort Edward	....	....	....	....	....	....	....	....
Whitehall	....	....	....	....	....	....	2,838	....

OSWEGO CANAL.								
Salina	....	....	....	....	....	....	....	....
Oswego	....	....	....	....	....	....	....	....
CAYUGA AND SENECA CANAL.								
Geneva	....	....	....	....	....	....	....	....
CHEMUNG CANAL.								
Watkins	....	....	....	....	....	....	....	....
Corning	....	....	....	....	....	....	....	....
CHENANGO CANAL.								
Oxford	....	....	....	....	....	....	....	....
GENESEE VALLEY CANAL.								
Mount Morris	....	....	....	....	....	....	....	....
Olean	....	....	....	....	....	....	....	....
BLACK RIVER CANAL.								
Boonville	....	....	....	21,718	2,079	....	....	....
	$12,632	....	....	$152,112	$76,308	$17,163	$202,456	$79,257

STATEMENT No. 3 — (*Continued*) — AGRICULTURE.

OFFICES.	VEGETABLE FOOD.					
	Flour.	Wheat.	Rye.	Corn.	Corn meal.	Barley.
ERIE CANAL.						
New York	$700	$9,940	....	....	....	$1,650
Albany	3,493	8,099	....	$15,280	....	9,912
West Troy	83,916	53,025	....	15,367	....	1,118
Schenectady	13,096	4,800	$6,480	4,581	$465	....
Fultonville	2,928	....	....	....	....	....
Little Falls	7,238	....	....	....	....	....
Utica	13,608	6,255	....	67,658	....	12,858
Rome	903	....	....	....	....	....
Syracuse	50,820	74,201	840	66,187	....	12,538
Montezuma	9,338	343,688	578	3,455	....	131,945
Palmyra	6	7,195	46	....	....	12,769
Rochester	1,239	3,516	173	1,465	....	1,063
Brockport	200	35,418	941	....	....	263,360
Albion	....	68,385	....	....	....	81,179
Medina	728	29,720	....	....	....	69,355
Lockport	107,303	145	....	....	....	9,084
Tonawanda	....	....	....	....	....	....
Buffalo	14,959	14,086,512	326,925	6,550,871	....	229,650
CHAMPLAIN CANAL.						
Waterford	3,528	....	4,826	1,873	....	11,132
Fort Edward	296	....	3,689	650	....	780
Whitehall	....	....	....	....	....	182,361

OSWEGO CANAL.						
Salina	189,070	15,663	....	....	....	....
Oswego	62,685	948,549	162,947	26,513	....	2,770,933
CAYUGA AND SENECA CANAL.						
Geneva	812	58,635	25,850	....	....	97,363
CHEMUNG CANAL.						
Watkins	4,225	....	....	....	....	6,668
Corning	....	....	....	....	....	....
CHENANGO CANAL.						
Oxford	....	....	....	....	....	....
GENESEE VALLEY CANAL.						
Mount Morris	11,424	9,799	....	902	296	4,615
Olean	....	....	....	....	....	....
BLACK RIVER CANAL.						
Boonville	....	....	....	....	....	....
	$582,515	$15,763,545	$533,295	$6,754,802	$761	$3,910,333

STATEMENT No. 3 — (*Continued*) — AGRICULTURE.

OFFICES.	VEGETABLE FOOD.						
	Barley malt.	Oats.	Bran and ship stuffs.	Peas and beans.	Apples.	Potatoes.	Dried fruit.
ERIE CANAL.							
New York	....	....	....	....	....	....	....
Albany	....	$15,818	$1,066	....	....	....	....
West Troy	$12,699	16,805	1,415	....	$2,515	$42,179	....
Schenectady	64,700	273	150	....	3,859	220	....
Fultonville	383,789	2,586	1,319	$137	885	1,294	....
Little Falls	3,000	....	....	....	822	1,252	....
Utica	....	1,289	9,646	3,416	2,384	38,243	$684
Rome	....	3,576	101	....	908	34,418	....
Syracuse	22,308	47,303	49,489	....	12,530	3,994	....
Montezuma	442,150	313,924	1,894	3,688	89,935	13,237	3,283
Palmyra	39,802	36,718	....	1,225	66,067	103,811	1,874
Rochester	27,866	852	238	151	49,666	1,391	....
Brockport	....	65,149	....	22,250	29,002	1,291	1,017
Albion	....	7,541	....	3,121	43,521	1,339	2,545
Medina	....	5,596	150	9,239	50,360	2,748	....
Lockport	34,487	409	7,061	597	28,698	362	....
Tonawanda	....	....	....	....	4,844	1,620	....
Buffalo	279,803	554,602	10,439	1,198	....	54	....
CHAMPLAIN CANAL.							
Waterford	....	6,193	288	....	....	147,073	....
Fort Edward	....	....	....	....	872	268,074	....
Whitehall	....	1,620	....	....	....	168,063	......

OSWEGO CANAL.							
Salina	....	950	31,110	....	5,025	5,859	....
Oswego	52,490	4,420	34,066	145,722	196	....	....
CAYUGA AND SENECA CANAL.							
Geneva	13,000	65,991	....	27	8,012	29	....
CHEMUNG CANAL.							
Watkins	21,300	1,465	....	....	....	....	....
Corning	....	....	....	....	....	....	....
CHENANGO CANAL.							
Oxford	....	....	....	....	....	....	....
GENESEE VALLEY CANAL.							
Mount Morris	....	728	3,312	....	5,026	....	....
Olean	....	....	....	....	....	....	....
BLACK RIVER CANAL.							
Boonville	....	....	....	....	....	49,401	....
	$1,397,364	$1,153,808	$151,744	$190,771	$405,127	$885,952	$9,403

STATEMENT No. 3—(*Continued*)— AGRICULTURE.

OFFICES.	ALL OTHER AGRICULTURAL PRODUCTS.					
	Cotton.	Unmanufactured tobacco.	Hemp.	Clover and grass seeds.	Flax seed.	Hops.
ERIE CANAL.						
New York	$14,850	....	....	....	....	....
Albany	....	....	....	....	....	....
West Troy	60,200	....	....	....	$34,911	....
Schenectady	....	....	$2,353	....	....	....
Fultonville	....	....	....	....	....	$516
Little Falls	....	....	....	....	....	....
Utica	4,986	$150	....	....	....	....
Rome	....	2,894	....	....	....	....
Syracuse	....	....	....	....	....	....
Montezuma	....	....	....	....	11,135	....
Palmyra	....	....	....	....	....	....
Rochester	....	2,800	....	....	....	....
Brockport	1,000	....	....	$93	....	....
Albion	....	....	....	....	....	....
Medina	....	....	....	....	....	....
Lockport	8,154	....	....	....	....	....
Tonawanda	....	....	....	....	....	....
Buffalo	....	....	....	2,023	....	....
CHAMPLAIN CANAL.						
Waterford	10,680	....	....	....	....	....
Fort Edward	....	....	....	....	....	....
Whitehall	....	....	....	....	....	....

OSWEGO CANAL.						
Salina	....	....	....	....	....	....
Oswego	....	3,630	....	....	....	....
CAYUGA AND SENECA CANAL.						
Geneva	....	....	....	....	31	....
CHEMUNG CANAL.						
Watkins	....	....	....	....	....	....
Corning	....	....	....	....	....	....
CHENANGO CANAL.						
Oxford	....	....	....	....	....	....
GENESEE VALLEY CANAL.						
Mount Morris	....	....	....	103	....	....
Olean	....	....	....	....	....	....
BLACK RIVER CANAL.						
Boonville	....	....	....	....	....	....
	$99,870	$9,474	$2,353	$2,219	$46,077	$516

STATEMENT No. 3 — (*Continued*) — MANUFACTURES.

OFFICES.	Domestic spirits.	Oil meal and cake.	Leather.	Furniture.	Bar and pig lead.	Pig iron.	Bloom and bar iron.
ERIE CANAL.							
New York	....	....	......	$23,040	......	$43,200	....
Albany	....	....	......	9,432	......	19,648	....
West Troy	....	$43,768	......	24,140	$4,795	151,489	$363,231
Schenectady	....	71,400	......	10,650	......	....	....
Fultonville	....	....	$15,000	5,282	77	3,480	....
Little Falls	....	....	45,503	1,466	......	....	....
Utica	....	....	......	7,086	......	437,889	....
Rome	....	....	......	172	......	13,445	14,996
Syracuse	....	....	966	7,397	......	....	45,701
Montezuma	....	3,181	......	815	......	7,725	....
Palmyra	....	....	......	1,770	......	....	....
Rochester	....	....	......	6,564	......	....	....
Brockport	....	....	......	772	......	....	....
Albion	....	....	......	135	......	....	....
Medina	$4,152	....	......	330	......	3,465	....
Lockport	4,466	....	......	6,258	......	....	1,589
Tonawanda	....	....	......	....	......	....	....
Buffalo	25,046	....	......	....	......	5,358	500
CHAMPLAIN CANAL.							
Waterford	....	....	......	2,200	......	11,946	16,250
Fort Edward	....	....	......	1,119	......	30,521	....
Whitehall	....	....	......	150	......	402,702	322,966

OSWEGO CANAL.							
Salina	....	....	......	....	......	....	....
Oswego	....	....	......	1,025	......	....	....
CAYUGA AND SENECA CANAL.							
Geneva	101	360	......	....	......	2,920	....
CHEMUNG CANAL.							
Watkins	....	....	......	....	......	....	....
Corning	....	....	......	....	......	....	....
CHENANGO CANAL.							
Oxford	....	....	......	....	......	....	....
GENESEE VALLEY CANAL.							
Mount Morris	....	....	......	450	......	....	....
Olean	....	....	......	....	......	....	....
BLACK RIVER CANAL.							
Boonville	....	....	......	....	......	....	....
	$33,765	$118,709	$61,469	$110,253	$4,872	$1,133,788	$765,233

STATEMENT No. 3 — (*Continued*) — MANUFACTURES.

OFFICES.	Castings and iron ware.	Domestic woolens.	Domestic cottons.	Domestic salt.	Foreign salt.	Sugar.
ERIE CANAL.						
New York	$8,936				$17,508	$291,764
Albany	81,678			$2,137	27	11,085
West Troy	77,232			4,875	8,610	333,003
Schenectady						
Fultonville				48		33
Little Falls	6,288	$6,334	$225			
Utica	6,153			23,153	113	8,916
Rome						
Syracuse	3,624			178,016		1,044
Montezuma	4,214			235,684		
Palmyra						
Rochester	1,313			322		
Brockport	33,568					
Albion	79					
Medina	2,570					
Lockport	19,948					
Tonawanda				5,532	3,102	
Buffalo				188	405	722
CHAMPLAIN CANAL.						
Waterford	13,984			27,391	17,831	34,749
Fort Edward	766					
Whitehall	186					

OSWEGO CANAL.						
Salina	....	....	....	339,303	....	25,994
Oswego	....	....	....	13,382	....	....
CAYUGA AND SENECA CANAL.						
Geneva	....	....	....	....	....	....
CHEMUNG CANAL.						
Watkins	....	....	....	....	....	....
Corning	....	....	....	....	....	....
CHENANGO CANAL.						
Oxford	....	....	....	1,560	....	....
GENESEE VALLEY CANAL.						
Mount Morris	....	....	....	45	....	....
Olean	....	....	....	700	....	....
BLACK RIVER CANAL.						
Boonville	....	....	....	....	....	....
	$260,539	$6,334	$225	$832,336	$47,596	$707,310

STATEMENT No. 3 — (*Continued*) — MERCHANDISE.

OFFICES.	Molasses.	Coffee.	Nails, spikes and horse shoes.	Iron and steel.	Railroad iron.	Flint, enameled crockery and glassware.
ERIE CANAL.						
New York	$17,992	$26,208	$58,016	$167,904	$6,939	$67,200
Albany	2,921	....	128	432	9,072	10,318
West Troy	218,134	10,972	56,596	415,827	162,135	44,860
Schenectady	....	24	....	25,916	....	8
Fultonville	....	....	108	4,525	....	65
Little Falls	....	....	....	160	....	....
Utica	3,915	....	977	25,794	26,688	1,427
Rome	....	....	....	11,236	479,834	10,639
Syracuse	50	....	....	8,463	27,237	19,360
Montezuma	....	....	....	175	....	34,878
Palmyra	....	....	....	....	....	37,226
Rochester	....	....	....	14,275	696	6,603
Brockport	....	....	....	11,318	....	335
Albion	....	....	....	....	....	....
Medina	....	....	....	....	....	....
Lockport	....	....	....	....	....	134,219
Tonawanda	....	....	....	....	....	....
Buffalo	....	....	144	....	....	3,892
CHAMPLAIN CANAL.						
Waterford	485,095	....	5,788	10,170	141,093	1,260
Fort Edward	....	....	....	3,585	....	....
Whitehall	....	....	764	1,044	....	8,400

OSWEGO CANAL.						
Salina	....	....	....	....	....	....
Oswego	....	....	....	....	....	50
CAYUGA AND SENECA CANAL.						
Geneva	....	....	....	....	....	10
CHEMUNG CANAL.						
Watkins	....	....	....	....	....	....
Corning	....	....	....	....	....	....
CHENANGO CANAL.						
Oxford	....	....	....	....	....	....
GENESEE VALLEY CANAL.						
Mount Morris	....	....	....	....	....	....
Olean	....	....	....	....	....	....
BLACK RIVER CANAL.						
Boonville	....	....	....	....	....	....
	$728,107	$37,204	$122,521	$700,824	$853,694	$380,750

STATEMENT No. 3 — (*Continued*) — MERCHANDISE AND OTHER ARTICLES.

OFFICES.	All other merchandise.	Live cattle, hogs and sheep.	Stone, lime and clay.	Gypsum.	Anthracite coal.	Bituminous coal.	Copper ore.
ERIE CANAL.							
New York	$10,734,100	......	$198,435	$7,859	$291,242	....	....
Albany	1,026,156	$444	76,385	....	128,271	$679	....
West Troy	8,734,900	......	836,394	....	912,331	....	....
Schenectady	8,400	......	27,143	150	....	....	....
Fultonville	188,841	......	4,202	....	90	....	....
Little Falls	84,458	......	....	....	....	....	....
Utica	305,294	......	57,727	8,055	486,878	....	....
Rome	24,620	......	12,354	215	30	....	....
Syracuse	379,197	......	40,271	13,273	161,920	24,258	....
Montezuma	10,730	......	6,065	22,466	780,441	42,299	....
Palmyra	73,542	......	....	....	....	....	....
Rochester	21,552	......	3,167	2,216	9,006	174	....
Brockport	38,954	......	118,359	....	....	....	....
Albion	690	......	37,321	....	27	....	....
Medina	6,471	......	38,590	....	13	....	....
Lockport	59,133	......	5,041	....	840	....	....
Tonawanda	....	......	1,502	....	3,052	....	....
Buffalo	30,458	......	30,449	....	....	76,612	....
CHAMPLAIN CANAL.							
Waterford	5,466,000	......	230,922	2,212	553,362	29,091	....
Fort Edward	54,525	......	102,724	30	11,582	....	....
Whitehall	166,418	......	36,283	....	....	....	....

OSWEGO CANAL.							
Salina	116,110	......	840	....	2,846	....	....
Oswego	2,703	......	2,961	....	480	....	....
CAYUGA AND SENECA CANAL.							
Geneva	....	......	4,515	17,857	373,260	163,903	....
CHEMUNG CANAL.							
Watkins	....	......	....	....	....	765,576	....
Corning	....	......	....	....	....	....	....
CHENANGO CANAL.							
Oxford	....	......	9,780	966	17,225	130	....
GENESEE VALLEY CANAL.							
Mount Morris	5,693	......	79,850	420	60	....	....
Olean	....	......	....	....	....	....	....
BLACK RIVER CANAL.							
Boonville	....	......	....	....	....	....	....
	$27,538,965	$444	$1,961,280	$75,719	$3,733,056	$1,102,722	....

STATEMENT No. 3—(*Continued*)—OTHER ARTICLES.

OFFICES.	Iron ore.	Sundries.	Total.	Total each canal.
ERIE CANAL.				
New York	....	$263,865	$12,339,300	
Albany	....	1,333,739	2,803,651	
West Troy	$96,554	16,603,320	29,692,801	
Schenectady	....	2,075,677	2,327,511	
Fultonville	....	2,042,078	2,694,737	
Little Falls	....	78,423	296,038	
Utica	12,720	388,678	2,181,605	
Rome	....	358,290	1,040,705	
Syracuse	1,592	780,616	2,061,138	
Montezuma	....	341,183	2,863,380	
Palmyra	....	19,097	403,173	
Rochester	....	131,054	318,367	
Brockport	....	28,479	667,341	
Albion	....	1,829	267,891	
Medina	....	2,303	235,551	
Lockport	....	9,680	448,987	
Tonawanda	....	14,857	3,596,605	
Buffalo	....	1,025,394	24,378,443	$88,617,224
CHAMPLAIN CANAL.				
Waterford	90,397	1,174,402	$8,721,078	
Fort Edward	18,100	34,032	1,629,950	
Whitehall	615,493	378,753	4,609,632	14,960,660

OSWEGO CANAL.				
Salina		22,368	$860,062	
Oswego		215,119	6,043,195	6,903,257
CAYUGA AND SENECA CANAL.				
Geneva		1,080	$837,720	837,720
CHEMUNG CANAL.				
Watkins		23,590	$842,978	
Corning			75,190	918,168
CHENANGO CANAL.				
Oxford		3,500	$38,690	38,690
GENESEE VALLEY CANAL.				
Mount Morris		13,579	$186,955	
Olean			150,700	337,655
BLACK RIVER CANAL.				
Boonville			$477,005	477,005
	$834,856	$27,364,985	$113,090,379	$113,090,379

(No. 4.)

STATEMENT showing the amount of tolls received on each article shipped at each office on the several canals, the total tolls received at each office, and on each canal, and the total received on each article at all the offices, during the year 1876.

BOATS AND THE FOREST.

OFFICES.	BOATS.		Toll on passengers.	Fur and Peltry.	PRODUCT OF WOOD.		
	Toll at two cents.	Toll on packets.			Boards and scantling.	Shingles.	Timber.
ERIE CANAL.							
New York	$10,161	......	......	......	$1,066	......	....
Albany	10,549	......	......	......	150	$3	....
West Troy	14,859	......	......	......	1,447	3	$549
Schenectady	1,104	......	......	......	20	......	....
Fultonville	916	......	......	......	8	......	....
Little Falls	658	......	......	......	32	......	....
Utica	1,517	$139	$16	......	1,320	8	....
Rome	1,376	......	......	......	1,696	35	58
Syracuse	6,756	64	......	......	311	4	9
Montezuma	4,997	......	......	......	146	18	....
Palmyra	804	......	2	......	26	6	....
Rochester	1,875	......	......	......	1,567	61	....
Brockport	526	......	......	......	16	1	....
Albion	470	......	1	......	8	......	....
Medina	436	......	1	......	159	14	....
Lockport	358	......	......	......	1,248	2	216
Tonawanda	7,885	......	......	......	156,025	1,695	13,312
Buffalo	27,199	......	......	......	52,889	1,415	....

CHAMPLAIN CANAL.							
Waterford	2,332	100	2	......	1,074	......	....
Fort Edward	1,794	......	1	......	9,765	1	204
Whitehall	4,166	......	1	......	19,739	76	329
OSWEGO CANAL.							
Salina	2,733	......	......	......	812	......	253
Oswego	4,908	......	......	......	58,936	374	....
CAYUGA AND SENECA CANAL.							
Geneva	1,800	......	......	......	169	......	1
CHEMUNG CANAL.							
Watkins	2,736	......	......	......	199	......	....
Corning	221	......	......	......	3,300	22	6
CHENANGO CANAL.							
Oxford	175	......	......	......	158	......	....
GENESEE VALLEY CANAL.							
Mount Morris	458	......	......	......	911	22	189
Olean	875	......	......	......	13,365	217	63
BLACK RIVER.							
Boonville	1,820	......	......	......	14,929	4	3,604
	$116,464	$303	$24	......	$341,491	$3,981	$18,793

STATEMENT No. 4 — (*Continued*) — THE FOREST AND AGRICULTURE.

OFFICES.	PRODUCT OF WOOD.			PRODUCT OF ANIMALS.					
	Staves.	Wood.	Ashes, pot and pearl.	Pork.	Beef.	Bacon.	Cheese.	Butter.	Lard, tallow and lard oil.
ERIE CANAL.									
New York	....	......	......	....	....	....	....	....	....
Albany	$2	......	......	$2	....	....	....	....	....
West Troy	50	$80	......	4	....	....	....	....	....
Schenectady	....	37	......	....	....	....	....	....	....
Fultonville	....	39	......	....	....	....	$12	....	$5
Little Falls	....	......	......	....	....	....	33	....	....
Utica	....	130	......	....	....	....	84	$54	1
Rome	....	370	......	....	....	....	....	....	....
Syracuse	13	38	......	2	$1	....	....	....	....
Montezuma	....	......	......	....	....	....	....	1	....
Palmyra	....	18	......	....	....	....	....	1	....
Rochester	731	153	......	....	....	....	....	....	....
Brockport	5	3	......	....	....	....	....	....	....
Albion	12	......	......	....	....	....	....	....	....
Medina	626	26	$18	....	....	....	....	....	....
Lockport	....	25	121	....	....	....	....	....	....
Tonawanda	768	37	222	....	....	....	....	....	....
Buffalo	14,974	......	......	2	....	....	....	....	10
CHAMPLAIN CANAL.									
Waterford	....	116	......	8	....	....	....	....	....
Fort Edward	25	806	......	....	....	....	....	....	....
Whitehall	18	192	115	....	....	....	....	....	....

OSWEGO CANAL.									
Salina	23	65	......	....	....	....	....	....	....
Oswego	....	......	......	....	....	....	....	....	....
CAYUGA AND SENECA CANAL.									
Geneva	1	......	......	....	....	....	....	....	....
CHEMUNG CANAL.									
Watkins	....	......	......	....	....	....	....	....	....
Corning	....	......	......	....	....	....	....	....	....
CHENANGO CANAL.									
Oxford	....	22	......	....	....	....	....	....	....
GENESEE VALLEY CANAL.									
Mount Morris	586	2,080	......	....	....	....	....	....	....
Olean	....	121	......	....	....	....	....	....	....
BLACK RIVER CANAL.									
Boonville	1,530	......	......	....	....	....	85	4	....
	$19,364	$4,358	$476	$18	$1	....	$214	$60	$16

OFFICES.	PRODUCT OF ANIMALS.		VEGETABLE FOOD.					
	Wool.	Hides.	Flour.	Wheat.	Rye.	Corn.	Corn meal.	Barley.
ERIE CANAL.								
New York	$4	$229	$8	$84	......	....	......	$2
Albany	......	......	6	20	......	$78	......	21
West Troy	25	89	33	43	......	77	......	9
Schenectady	......	......	8	6	$11	12	......	....
Fultonville	......	......	3	....	......	....	......	....
Little Falls	......	......	17	....	......	....	......	....
Utica	1	2	17	28	......	549	$32	....
Rome	......	30	101	64	......	172	......	....
Syracuse	......	......	69	242	3	294	......	160
Montezuma	......	......	51	983	9	61	......	1,908
Palmyra	......	......	......	72	1	....	......	28
Rochester	......	......	7	867	4	1,881	......	23
Brockport	......	......	......	387	18	....	......	3,903
Albion	......	2	......	1,039	......	....	......	1,479
Medina	......	......	32	13,928	278	11,048	......	451
Lockport	......	......	148	1,651	......	2,076	......	26
Tonawanda	......	......	......	....	......	....	......	....
Buffalo	......	......	56	223,319	8,081	222,699	......	3,742
CHAMPLAIN CANAL.								
Waterford	6	......	5	....	5	9	......	16
Fort Edward	......	......	1	....	14	....	......	1
Whitehall	1	......	......	....	......	....	......	567

OSWEGO CANAL.								
Salina	......	2	726	237	......	9	......	....
Oswego	......	......	231	6,081	2,143	198	......	24,377
CAYUGA AND SENECA CANAL.								
Geneva	......	......	5	128	472	....	......	1,005
CHEMUNG CANAL.								
Watkins	......	......	19	....	......	....	......	8
Corning	......	......	......	....	......	....	......	....
CHENANGO CANAL.								
Oxford	......	......	......	....	......	....	......	....
GENESEE VALLEY CANAL.								
Mount Morris	......	......	91	53	......	6	3	13
Olean	......	......	......	....	......	....	......	....
BLACK RIVER CANAL.								
Boonville	......	......	......	....	......	....	......	....
	$37	$354	$1,634	$249,232	$11,039	$239,169	$35	$37,739

STATEMENT No. 4 — (*Continued*) — AGRICULTURE.

OFFICES.	VEGETABLE FOOD.						
	Barley malt.	Oats.	Bran and ship stuffs.	Peas and beans.	Apples.	Potatoes.	Dried fruit.
ERIE CANAL.							
New York	....	....	......	......	....	....	....
Albany	....	$60	$6	......	....	....	....
West Troy	$21	34	1	......	$25	$67	....
Schenectady	13	1	1	......	20	2	....
Fultonville	104	15	1	$1	6	8	....
Little Falls	5	....	......	......	4	12	....
Utica	....	7	95	13	15	340	$2
Rome	....	105	93	......	68	420	....
Syracuse	134	1,149	110	......	202	32	....
Montezuma	1,948	5,498	13	36	2,656	261	3
Palmyra	388	672	......	25	4,783	2,493	7
Rochester	202	306	3	3	767	35	....
Brockport	....	521	......	309	602	30	3
Albion	....	200	......	68	1,407	35	24
Medina	....	820	3	45	1,081	68	....
Lockport	345	8	16	5	359	....	....
Tonawanda	....	....	......	......	49	1	....
Buffalo	2,530	17,195	327	21	....	1	....
CHAMPLAIN CANAL.							
Waterford	....	21	1	......	....	208	....
Fort Edward	....	....	......	......	5	970	....
Whitehall	....	4	......	......	....	659	....

OSWEGO CANAL.							
Salina	....	77	78	......	81	67	....
Oswego	215	70	522	2,360	4	....	....
CAYUGA AND SENECA CANAL.							
Geneva	94	967	......	......	247	....	....
CHEMUNG CANAL.							
Watkins	138	6	......	......	....	....	....
Corning	....	....	......	......	....	....	....
CHENANGO CANAL.							
Oxford	....	....	......	......	....	....	....
GENESEE VALLEY CANAL.							
Mount Morris	....	4	71	......	254	....	....
Olean	....	....	......	......	....	....	....
BLACK RIVER CANAL.							
Boonville	....	....	......	......	....	1,288	....
	$6,137	$27,740	$1,341	$2,886	$12,635	$6,997	$39

STATEMENT No. 4—(*Continued*)—AGRICULTURE AND MANUFACTURES.

OFFICES.	ALL OTHER AGRICULTURAL PRODUCTS.						Domestic spirits.	Oil meal and cake.	Leather.
	Cotton.	Unmanufactured tobacco.	Hemp.	Clover and grass seed.	Flax seed.	Hops.			
ERIE CANAL.									
New York	$15	....	....	....	....	....	....	....	....
Albany	....	....	....	....	....	....	....	....	....
West Troy	37	....	....	....	$63	....	....	$8	....
Schenectady	....	....	$1	....	....	....	....	139	....
Fultonville	....	....	....	....	....	....	....	....	$3
Little Falls	....	....	....	....	....	....	....	....	....
Utica	7	....	....	....	....	....	....	....	....
Rome	....	$6	....	....	....	....	....	....	....
Syracuse	....	....	....	....	....	....	....	....	2
Montezuma	....	....	....	....	69	....	....	13	....
Palmyra	....	....	....	....	....	....	....	....	....
Rochester	....	2	....	....	....	....	....	....	....
Brockport	1	....	....	....	....	....	....	....	....
Albion	....	....	....	....	....	....	....	....	....
Medina	....	....	....	....	....	....	$10	....	....
Lockport	1	....	....	....	....	....	1	....	....
Tonawanda	....	....	....	....	....	....	....	....	....
Buffalo	....	....	....	$24	....	....	6	....	....
CHAMPLAIN CANAL.									
Waterford	3	....	....	....	....	....	....	....	....
Fort Edward	....	....	....	....	....	....	....	....	....
Whitehall	....	....	....	....	....	....	....	....	....

OSWEGO CANAL.									
Salina	....	....	....	......	......	....	....	....	....
Oswego	....	7	....	......	......	....	....	....	....
CAYUGA AND SENECA CANAL.									
Geneva	....	....	....	......	22	....	....	5	....
CHEMUNG CANAL.									
Watkins	....	....	....	......	......	....	....	....	....
Corning	....	....	....	......	......	....	....	....	....
CHENANGO CANAL.									
Oxford	....	....	....	......	......	....	....	....	....
GENESEE VALLEY CANAL.									
Mount Morris	....	....	4	......	......	....	....	....	....
Olean	....	....	....	......	......	....	....	....	....
BLACK RIVER CANAL.									
Boonville	....	....	....	......	......	....	....	....	....
	$64	$15	$5	$24	$154	....	$17	$165	$5

STATEMENT No. 4—(*Continued*)—MANUFACTURES.

OFFICES.	Furniture	Bar and pig lead.	Pig iron.	Bloom and bar iron.	Castings and iron ware.	Domestic woolens.	Domestic cotton.	Domestic salt.	Foreign salt.
ERIE CANAL.									
New York	$44	....	$643	$13	......	....	....	....	$1,986
Albany	4	....	178	....	$300	....	....	$21	1
West Troy	23	$6	606	2,228	264	....	....	43	142
Schenectady	4	....	......	......	......	....	....	....	.....
Fultonville	3	....	3	......	......	....	....	4	.....
Little Falls	14	7	......	......	36	....	....	....	.....
Utica	10	....	1,496	......	59	....	....	139	1
Rome	3	....	172	18	1	....	....	210	.....
Syracuse	12	....	......	58	9	....	....	9,715	.....
Montezuma	4	....	56	......	10	....	....	4,227	1
Palmyra	2	....	......	......	......	....	....	111	.....
Rochester	10	....	3	......	6	....	....	357	1
Brockport	1	....	5	......	1	....	....	9	.....
Albion	....	....	......	......	......	....	....	17	.....
Medina	1	....	7	......	3	....	....	5	.....
Lockport	5	....	......	11	3	....	....	28	.....
Tonawanda	....	....	......	......	......	....	....	25	27
Buffalo	....	....	54	1	......	....	....	1	7
CHAMPLAIN CANAL.									
Waterford	1	....	38	32	10	....	....	265	308
Fort Edward	1	....	43	......	......	....	....	....	.....
Whitehall	1	....	1,068	500	......	....	....	....	.....

OSWEGO CANAL.									
Salina	....	....	......	......	......	....	....	13,661	.....
Oswego	1	....	......	......	......	....	....	88	.....
CAYUGA AND SENECA CANAL.									
Geneva	....	....	2	......	......	....	....	....	.....
CHEMUNG CANAL.									
Watkins	....	....	......	......	......	....	....	....	.....
Corning	....	....	......	......	......	....	....	....	.....
CHENANGO CANAL.									
Oxford	....	....	......	......	......	....	....	26	.....
GENESEE VALLEY CANAL.									
Mount Morris	1	....	......	......	......	....	....	1	....
Olean	....	....	......	......	......	....	....	22	.....
BLACK RIVER CANAL.									
Boonville	....	....	......	......	......	....	....	....	.....
	$145	$13	$4,374	$2,861	$702	....	....	$28,975	$2,474

STATEMENT No. 4 — (*Continued*) — MERCHANDISE.

OFFICES.	Sugar.	Molasses.	Coffee.	Nails, spikes, and horse shoes.	Iron and steel.	Railroad iron.	Flint enamel, crockery and glassware.	All other merchandise.
ERIE CANAL.								
New York	$276	$154	$25	$118	$261	$40	$36	$5,828
Albany	4	1	......	......	......	40	1	246
West Troy	318	117	2	104	334	533	51	1,903
Schenectady	......	......	......	......	48	......	......	2
Fultonville	......	......	......	8	2	......	......	94
Little Falls	......	......	......	......	......	......	......	92
Utica	2	2	......	2	8	14	4	176
Rome	......	......	9	......	14	338	13	224
Syracuse	......	......	......	......	2	87	40	818
Montezuma	......	......	......	9	3	85	89	19
Palmyra	......	......	......	......	......	......	26	110
Rochester	......	......	......	......	7	3	4	76
Brockport	......	......	......	......	3	......	......	26
Albion	......	......	......	......	......	......	......	4
Medina	......	......	......	......	......	......	......	8
Lockport	......	......	......	......	......	......	29	118
Tonawanda	......	......	......	......	......	......	......	......
Buffalo	......	......	......	......	......	......	7	27
CHAMPLAIN CANAL.								
Waterford	9	242	......	46	83	138	......	540
Fort Edward	......	......	......	......	2	......	......	7
Whitehall	......	......	......	......	1	......	9	42

OSWEGO CANAL.								
Salina	4	......	......	......	......	......	......	41
Oswego	......	......	......	......	......	......	......	11
CAYUGA AND SENECA CANAL.								
Geneva	......	......	......	......	......	......	......	......
CHEMUNG CANAL.								
Watkins	......	......	......	......	......	......	......	......
Corning	......	......	......	......	......	......	......	......
CHENANGO CANAL.								
Oxford	......	......	......	......	......	......	......	......
GENESEE VALLEY CANAL.								
Mount Morris	......	......	......	......	......	......	......	14
Olean	......	......	......	......	......	......	......	......
BLACK RIVER CANAL.								
Boonville	......	......	......	......	......	......	......	......
	$613	$516	$36	$287	$768	$1,278	$309	$10,426

STATEMENT No. 4 — (*Continued*) — OTHER ARTICLES.

OFFICES.	Live cattle, hogs and sheep.	Stone, lime and clay.	Gypsum.	Anthracite coal.	Bituminous coal.	Copper ore.
ERIE CANAL.						
New York	....	$2,681	$476	$15,508	....	....
Albany	$5	708	....	1,925	$8	....
West Troy	....	2,971	....	14,014	....	....
Schenectady	....	44	6	....	....	....
Fultonville	....	32	....	20	....	....
Little Falls	....	....	....	....	....	....
Utica	....	189	42	235	....	....
Rome	....	450	74	117	7	....
Syracuse	....	370	47	2,925	865	....
Montezuma	....	402	242	20,221	1,250	....
Palmyra	....	6	8	106	....	....
Rochester	....	205	218	418	12	....
Brockport	....	329	....	46	....	....
Albion	....	1,077	87	....	....	....
Medina	....	1,655	....	12	....	....
Lockport	....	183	....	42	....	....
Tonawanda	23	....	....	39	....	....
Buffalo	....	950	....	....	4,327	....
CHAMPLAIN CANAL.						
Waterford	....	566	39	8,299	282	....
Fort Edward	....	2,914	....	103	....	....
Whitehall	....	467	....	....	....	....

OSWEGO CANAL.						
Salina	....	437	191	1,209	107	....
Oswego	....	27	....	3	....	....
CAYUGA AND SENECA CANAL.						
Geneva	....	39	21	9,882	4,431	....
CHEMUNG CANAL.						
Watkins	....	....	....	....	25,844	....
Corning	....	....	....	....	....	....
CHENANGO CANAL.						
Oxford	....	225	143	820	1	....
GENESEE VALLEY CANAL.						
Mount Morris	....	222	9	1	....	....
Olean	....	....	....	....	....	....
BLACK RIVER CANAL.						
Boonville	....	....	....	....	....	....
	$28	$17,149	$1,603	$75,945	$37,134	....

STATEMENT No. 4 — (*Continued*) — OTHER ARTICLES.

OFFICES.	Iron ore.	Sundries.	Total.	Total each canal.
ERIE CANAL.				
New York	....	$2,488	$42,146	
Albany	....	11,096	25,435	
West Troy	$1,446	4,745	47,374	
Schenectady	....	2,594	4,073	
Fultonville	....	681	1,968	
Little Falls	....	396	1,306	
Utica	14	1,017	7,787	
Rome	26	440	6,710	
Syracuse	3	1,978	26,524	
Montezuma	....	654	45,943	
Palmyra	....	21	9,716	
Rochester	....	260	10,067	
Brockport	....	164	6,909	
Albion	....	23	5,953	
Medina	....	6	30,741	
Lockport	....	82	7,107	
Tonawanda	....	12	180,120	
Buffalo	....	3,780	583,644	$1,043,523
CHAMPLAIN CANAL.				
Waterford	459	2,565	$17,828	
Fort Edward	120	302	17,079	
Whitehall	10,153	1,278	39,386	74,293

OSWEGO CANAL.				
Salina	....	1,037	$21,850	
Oswego	....	2,069	102,625	
				124,475
CAYUGA AND SENECA CANAL.				
Geneva	....	13	$19,304	
				19,304
CHEMUNG CANAL.				
Watkins	....	753	$29,703	
Corning	....	28	3,577	
				33,280
CHENANGO CANAL.				
Oxford	....	81	$1,651	
				1,651
GENESEE VALLEY CANAL.				
Mount Morris	....	479	$5,472	
Olean	....	1	14,664	
				20,136
BLACK RIVER CANAL.				
Boonville	....	78	$23,342	23,342
	$12,221	$39,121	$1,340,004	$1,340,004

(No. 5.)

STATEMENT made up from the tables numbered 2, 3 *and* 4, *showing the tons and value of, and the tolls paid on, each article transported on all the canals during the year* 1876, *with the total movement or number of tons carried one mile.*

ARTICLES.	Quantity.	Tons.	Value.	Tolls.	Rate per ton per mile.	No of tons moved one mile.
BOATS.					c. m. f.	
Toll at two cents	....	....	....	$116,464	4 0 0	....
Toll on packets	....	....	....	303	8 0 0	....
Total boats	....	....	....	$116,767	......	....
Passengers	....	....	....	$24	0 1 0	....
THE FOREST.						
Fur and peltry, lbs	....	....	....	....	0 4 0	....
Product of wood.						
Boards and scantling, feet	607,155,000	1,011,925	$10,076,145	$341,491	0 6 0	56,915,166
Shingles, M	55,752	6,969	173,510	3,981	0 1 0	3,981,000
Timber, cubic feet	1,559,650	31,193	343,882	18,793	0 5 0	3,758,600
Staves, lbs	74,712,000	37,356	419,169	19,364	0 2 0	9,682,000
Wood, cords	44,505	84,613	115,384	4,358	0 1 5	2,905,333
Ashes, pot and pearl, bbls	11,844	3,257	4,876	476	0 3 0	158,666
Total of the forest	....	1,175,313	$11,132,966	$388,463	......	77,400,765

AGRICULTURE.						
Product of animals.						
Pork, bbls	650	104	$12,632	$18	0 3 0	6,000
Beef, bbls	....	....	....	1	0 2 0	500
Bacon, lbs	....	....	....	....	0 2 0	....
Cheese, lbs	1,220,000	610	152,112	214	0 2 0	107,000
Butter, lbs	256,000	128	76,308	60	0 3 0	20,000
Lard, tallow and lard oil, lbs	152,000	76	17,163	16	0 2 0	8,000
Wool, lbs	522,000	261	202,456	37	0 2 0	18,500
Hides, lbs	1,434,000	717	79,257	354	0 3 0	118,000
Total products of animals	....	1,896	$539,928	$700	......	278,000
Vegetable food.						
Flour, bbls	86,019	9,290	$582,515	$1,634	0 2 0	817,000
Wheat, bushels	13,879,200	416,376	15,763,545	249,232	0 2 0	124,616,000
Rye, bushels	712,464	19,949	533,295	11,039	0 2 0	5,519,500
Corn, bushels	13,044,786	365,254	6,754,802	239,169	0 2 0	119,584,500
Corn meal, bbls	232	25	761	35	0 2 0	17,500
Barley, bushels	4,020,584	96,494	3,910,333	37,739	0 2 0	18,869,500
Barley malt, bushels	1,510,629	26,436	1,397,364	6,137	0 2 0	3,068,500
Oats, bushels	3,259,188	52,147	1,153,808	27,740	0 2 0	13,870,000
Bran and ship stuffs, lbs	11,264,000	5,632	151,744	1,341	0 2 0	670,500
Peas and beans, bushels	174,200	5,226	190,771	2,886	0 3 0	962,000
Apples, bbls	460,069	33,355	405,127	12,635	0 2 0	6,317,500
Potatoes, bushels	1,133,933	34,018	885,952	6,997	0 2 0	3,498,500
Dried fruits, lbs	182,000	91	9,403	39	0 3 0	13,000
Total vegetable food	....	1,064,293	$31,739,420	$596,623	......	297,824,000

STATEMENT No. 5—(*Continued*).

ARTICLES.	Quantity.	Tons.	Value.	Tolls.	Rate per ton per mile.	No. of tons moved one mile.
All other agricultural products.					c. m. f.	
Cotton, lbs	1,048,000	524	$99,870	$64	0 2 0	32,000
Unmanufactured tobacco, lbs	80,000	40	9,474	15	0 2 0	7,500
Hemp, lbs	40,000	20	2,353	5	0 2 0	2,500
Clover and grass seed, lbs	58,000	29	2,219	24	0 3 0	8,000
Flax seed, lbs	1,388,000	694	46,077	154	0 3 0	51,333
Hops, lbs	2,000	1	516	....	0 3 0	....
Total all other agrt'l products	....	1,308	$160,509	$262		101,333
Total agricultural products	....	1,067,497	$32,439,857	$597,585		298,203,333
MANUFACTURES.						
Domestic spirits, gallons	44,750	179	$33,765	$17	0 2 0	8,500
Oil meal and cake, lbs	5,408,000	2,704	118,709	165	0 2 0	82,500
Leather, lbs	216,000	108	61,469	5	0 2 0	2,500
Furniture, lbs	640,000	320	110,253	145	0 3 0	48,333
Bar and pig lead, lbs	68,000	34	4,872	13	0 1 0	13,000
Pig iron, lbs	89,344,000	44,672	1,133,788	4,374	0 1 0	4,374,000
Bloom and bar iron, lbs	33,010,000	16,505	765,233	2,861	0 1 0	2,861,000
Castings and iron ware, lbs	3,212,000	1,606	260,539	702	0 2 0	351,000
Domestic woolen, lbs	4,000	2	6,334	....	0 2 0	....
Domestic cotton, lbs	2,000	1	225	....	0 2 0	....

Domestic salt, lbs.	221,930,000	110,965	832,336	28,975	0 2 0	14,487,500
Foreign salt	6,210,000	3,105	47,596	2,474	0 5 0	494,800
Total manufactures	....	180,201	$3,375,119	$39,731		22,723,133
MERCHANDISE.						
Sugar, lbs.	6,720,000	3,360	$707,310	$613	0 1 0	613,000
Molasses, lbs.	11,682,000	5,841	728,107	516	0 1 0	516,000
Coffee, lbs.	142,000	71	37,204	36	0 1 0	36,000
Nails, spikes and horseshoes, lbs.	4,362,000	2,181	122,521	287	0 1 0	287,000
Iron and steel, lbs.	8,972,000	4,486	700,824	768	0 1 0	768,000
Railroad iron, lbs.	23,382,000	11,691	853,694	1,278	0 1 0	1,278,000
Flint, enamel, crockery and glassware, lbs.	3,150,000	1,575	380,750	309	0 1 0	309,000
All other merchandise, lbs.	71,476,000	35,738	27,538,965	10,426	0 2 0	5,213,000
Total merchandise	....	64,943	$31,069,375	$14,233		9,020,000
OTHER ARTICLES.						
Live cattle, hogs and sheep, lbs.	6,000	3	$444	$28	0 3 0	9,333
Stone, lime and clay, lbs.	401,876,000	200,938	1,961,280	17,149	0 1 0	17,149,000
Gypsum, lbs	33,552,000	16,776	75,719	1,603	0 1 0	1,603,000
Anthracite coal, lbs.	1,518,748,000	759,374	3,733,056	75,945	0 1 0	75,945,000
Bituminous coal, lbs.	554,648,000	277,324	1,102,722	37,134	0 1 0	37,134,000
Copper ore, lbs.	....	....	....	....	0 1 0	....

STATEMENT No. 5—(*Continued*).

ARTICLES.	Quantity.	Tons.	Value.	Tolls.	Rate per ton per mile.	No. of tons moved one mile.
					c. m. f.	
Iron ore, lbs.	347,160,000	173,530	$834,856	$12,221	0 1 0	12,221,000
Sundries, lbs.	512,460,000	256,230	27,364,985	39,121	0 2 0	19,560,500
Total other articles	....	1,684,175	$35,073,062	$183,201		163,621,833
Total	....	4,172,129	$113,090,379	$1,340,004		570,969,064

(No. 6.)

STATEMENT of all the property that came to the Hudson river on the canals in 1876, *with the quantity and estimated value of each article in Albany and Troy.*

ARTICLES.	QUANTITY.		TONS.			Estimated value of each article.
	Erie.	Champlain.	Erie.	Champlain.	Total.	
THE FOREST.						
Fur and peltry	....	....	....	....	....	....
Product of wood.						
Boards and scantling, feet	318,754,200	184,462,800	531,257	307,438	838,695	$8,542,449
Shingles, M.	8,576	2,248	1,072	281	1,353	37,871
Timber, cubic feet	584,200	21,700	11,684	434	12,118	212,065
Staves, lbs.	50,840,000	970,000	25,420	485	25,905	518,122
Wood, cords	472	4,048	1,322	11,332	12,654	27,114
Ashes, pot and pearl, bbls.	....	....	....	....	....	....
Total of the forest	....	....	570,755	319,970	890,725	$9,337,621
AGRICULTURE.						
Product of animals.						
Pork, bbls	....	....	....	....	....	....
Beef, bbls	....	....	....	....	....	....
Bacon, lbs	....	....	....	....	....	....
Cheese, lbs.	686,000	....	343	....	343	$95,928
Butter, lbs	130,000	....	65	....	65	36,260
Lard, tallow and lard oil, lbs	120,000	....	60	....	60	16,785

STATEMENT No. 6—(*Continued*).

ARTICLES.	QUANTITY.		TONS.			Estimated value of each article.
	Erie.	Champlain.	Erie.	Champlain.	Total.	
Wool, lbs	....	....	....	....	....	....
Hides, lbs	....	....	....	....	....	....
Total product of animals	....	....	468	....	468	$148,973
Vegetable food.						
Flour, bbls	26,611	9,629	2,874	1,040	3,914	$253,708
Wheat, bushels	11,768,466	23,833	353,054	715	353,769	17,510,156
Rye, bushels	678,714	3,250	19,004	91	19,095	579,762
Corn, bushels	11,371,071	....	318,390	....	318,390	6,822,924
Corn meal, bbls	....	....	....	....	....	....
Barley, bushels	3,633,708	127,500	87,209	3,060	90,269	4,137,335
Barley malt, bushels	750,514	....	13,134	....	13,134	918,619
Oats, bushels	3,148,062	....	50,369	....	50,369	1,416,623
Bran and ship stuffs, lbs	998,000	114,000	499	57	556	11,111
Peas and beans, bushels	128,900	....	3,867	....	3,867	193,362
Apples, bbls	323,915	....	22,998	....	22,998	396,114
Potatoes, bushels	344,366	635,866	10,331	19,076	29,407	1,178,299
Dried fruit, lbs	....	....	....	....	....	....
Total vegetable food	....	....	881,729	24,039	905,768	$33,418,013

All other agricultural products.						
Cotton, lbs..	20,000	106,000	10	53	63	$14,620
Unmanufactured tobacco, lbs.	76,000	....	38	....	38	28,842
Hemp, lbs.	....	....	....	....	....	....
Clover and grass seed, lbs.	....	....	....	....	....	....
Flax seed, lbs.	292,000	....	146	....	146	8,769
Hops, lbs.	....	....	....	....	....	....
Total all other agricultural products	....	....	194	53	247	$52,231
Total agricultural products	....	....	882,391	24,092	906,483	$33,619,217
MANUFACTURES.						
Domestic spirits, gals	250	....	1	....	1	$164
Oil meal and cake, lbs.	5,724,000	....	2,862	....	2,862	143,090
Leather, lbs.	114,000	....	57	....	57	28,600
Furniture, lbs.	26,000	....	13	....	13	5,340
Bar and pig lead, lbs.	....	....	....	....	....	....
Pig iron, lbs.	11,550,000	41,848,000	5,775	20,924	26,669	533,978
Bloom and bar iron, lbs.	....	11,176,000	....	5,588	5,588	210,882
Castings and iron ware, lbs.	6,000	2,000	3	1	4	728
Domestic woolens, lbs.	2,000	....	1	....	1	1,080
Domestic cotton, lbs.	....	....	....	....	....	....
Domestic salt, lbs.	17,598,000	....	8,799	....	8,799	274,527
Foreign salt, lbs.	....	488,000	....	244	244	3,904
Total manufactures	....	....	17,511	26,757	44,268	$1,202,293

STATEMENT No. 6 — (*Continued*).

ARTICLES.	QUANTITY.		TONS.			Estimated value of each article.
	Erie.	Champlain.	Erie.	Champlain.	Total.	
MERCHANDISE.						
Sugar, lbs	4,000	....	2	....	2	....
Molasses, lbs	....	....	....	....	....	$215
Coffee, lbs	....	....	....	....	....	....
Nails, spikes and horseshoes, lbs	....	14,000	....	7	7	520
Iron and steel, lbs	448,000	1,694,000	224	847	1,071	192,699
Railroad iron, lbs	2,450,000	....	1,225	....	1,225	55,114
Flint, enamel, crockery, glassware, lbs.	86,000	....	43	....	43	17,140
All other merchandise, lbs	1,274,000	2,758,000	637	1,379	2,016	2,015,100
Total merchandise, lbs	....	....	2,131	2,233	4,364	$2,280,788
OTHER ARTICLES.						
Live cattle, hogs and sheep, lbs	....	....	....	....	....	....
Stone, lime and clay, lbs	64,056,000	75,496,000	32,028	37,748	69,776	$1,395,514
Gypsum, lbs	....	502,000	....	251	251	1,504
Anthracite coal, lbs	69,368,000	46,792,000	34,684	23,396	58,080	232,247
Bituminous coal, lbs	205,850,000	....	102,925	....	102,925	617,544
Copper ore, lbs	....	....	....	....	....	....
Iron ore lbs	964,000	321,682,000	482	160,841	161,323	1,935,874
Sundries, lbs	204,826,000	171,148,000	102,413	85,574	187,987	23,271,276
Total other articles	....	....	272,532	307,810	580,342	$27,453,959
Total	....	....	1,745,320	680,862	2,426,182	$73,893,878

(No. 7.)

The number of tons going from tide water in 1876, is as follows:

FROM.	Merchandise.	Furniture.	All other articles.	Total.
New York	14,478	58	162,477	177,013
Albany	1,328	23	38,119	39,470
West Troy	18,679	61	292,325	311,065
Schenectady	273	11	45	329
Waterford	13,784	6	204,130	217,920
	48,542	159	697,096	745,797

The merchandise cleared as above was left on the several canals in the following proportions, viz.:

On the Erie canal	21,208
Champlain canal	18,465
Oswego canal	4,247
Cayuga and Seneca canal	2,964
Chemung canal	647
Crooked Lake canal	......
Chenango canal	92
Genesee Valley canal	108
Black River canal	811
Oneida Lake canal	......
Total	48,542

(No. 8.)

STATEMENT showing the quantity and tons of each article coming from other States during the year 1876.

ARTICLES.	QUANTITY.			TONS.			Total tons.
	Buffalo and Tonawanda.	Oswego.	Whitehall.	Buffalo and Tonawanda.	Oswego.	Whitehall.	
THE FOREST.							
Fur and peltry, lbs.........	....	....	....	....	......	......	....
Product of wood.							
Boards and scantling, feet...	165,591,961	104,985,513	70,447,493	275,986	174,975	117,412	568,373
Shingles, M.......	37,071	6	356	4,884	1	44	4,929
Timber, cubic feet..........	490,991	....	21,265	9,819	......	425	10,244
Staves, lbs..................	56,661,869	....	120,000	28,330	......	60	28,390
Wood, cords...............	....	....	45	....	......	126	126
Ashes, pot and pearl, bbls...	....	....	8,511	....	......	2,340	2,340
Total of the forest........	....	....	....	319,019	174,976	120,407	614,402
AGRICULTURE.							
Product of animals.							
Pork, bbls.................	....	....	....	....	......	......	....
Beef, bbls.................	....	....	....	....	......	......	....
Bacon, lbs.................	....	....	....	....	......	......	....
Cheese, lbs................	....	....	....	....	......	......	....
Butter, lbs	....	....	....	....	......	......	....

Lard, tallow and lard oil, lbs.	....	....	....	....	......	......	....
Wool, lbs.	....	....	....	....	......	......	....
Hides, lbs.	....	....	....	....	......	......	....
Total product of animals.	....	....	....	....	......	......	....
Vegetable food.							
Flour, bbls.	....	....	....	....	......	......	....
Wheat, bushels.	12,577,243	729,653	....	377,317	21,889	......	399,206
Rye, bushels.	435,900	203,684	....	12,205	5,703	......	17,908
Corn, bushels.	12,720,138	47,344	....	356,064	1,325	......	357,389
Corn meal, bbls.	....	....	....	....	......	......	....
Barley, bushels.	263,965	2,638,984	182,361	6,335	63,335	4,376	74,046
Barley malt, bushels.	....	....	....	....	......	......	....
Oats, bushels.	1,685,530	1,105	1,600	26,488	17	25	26,530
Bran and ship stuffs, lbs.	....	....	....	....	......	......	....
Peas and beans, bushels.	....	145,722	....	....	4,371	......	4,371
Apples, bbls.	....	196	....	....	14	......	14
Potatoes, bushels.	....	....	20,657	....	......	619	619
Dried fruit, lbs.	....	....	....	....	......	......	....
Total vegetable food.	....	....	....	778,409	96,654	5,020	880,083
All other agricultural products.							
Cotton, lbs	....	....	....	....	......	......	....
Unmanufactured tobacco, lbs.	....	31,700	....	....	16	......	16
Hemp, lbs.	....	....	....	....	......	......	....
Clover and grass seed, lbs	....	....	....	....	......	......	....

STATEMENT No. 8 — (*Continued*).

ARTICLES.	QUANTITY.			TONS.			Total tons.
	Buffalo and Tonawanda.	Oswego.	Whitehall.	Buffalo and Tonawanda.	Oswego.	Whitehall.	
Flax seed, lbs	....	....	....	....	......	......	....
Hops, lbs	....	....	....	....	......	......	....
Total all other ag'l products	....	....	....	....	16	......	16
Total agricultural products	....	....	....	778,409	96,670	5,020	880,099
MANUFACTURES.							
Domestic spirits, gallons	....	....	....	....	......	......	....
Oil meal and cake, lbs	....	....	....	....	......	......	....
Leather, lbs	....	....	....	....	......	......	....
Furniture, lbs	....	....	....	....	......	......	....
Bar and pig lead, lbs	....	....	....	....	......	......	....
Pig iron, lbs	....	....	....	....	......	......	....
Bloom and bar iron, lbs	....	....	....	....	......	......	....
Castings and iron ware, lbs	....	....	....	....	......	......	....
Domestic woolens, lbs	....	....	....	....	......	......	....
Domestic cottons, lbs	....	....	....	....	......	......	....
Domestic salt, lbs	....	....	....	....	......	....	....
Foreign salt, lbs	301,537	....	....	151	......	......	151
Total manufactures	....	....	....	151	......	......	151

MERCHANDISE.							
Sugar, lbs	....	....	....	....	......	......	....
Molasses, lbs	....	....	....	....	......	......	....
Coffee, lbs	....	....	....	....	......	......	....
Nails, spikes and horse shoes, lbs	....	....	....	....	......	......	....
Iron and steel, lbs	....	....	....	....	......	......	....
Railroad iron, lbs	....	....	....	....	......	......	....
Flint, enamel, crockery and glassware, etc	....	....	....	....	......	......	....
All other merchandise, lbs	....	28,623	60,000	....	14	30	44
Total merchandise	....	....	....	....	14	30	44
OTHER ARTICLES.							
Live cattle, hogs and sheep, lbs.	....	....	....	....	......	......	....
Stone, lime and clay, lbs	7,612,351	307,200	2,811,780	3,806	158	1,406	5,370
Gypsum, lbs	....	....	....	....	......	......	....
Anthracite coal, lbs	....	....	....	....	......	......	....
Bituminous coal, lbs	38,306,200	....	....	19,153	......	......	19,153
Copper ore, lbs	....	....	....	....	......	......	....
Iron ore, lbs	....	....	....	....	......	......	....
Sundries, lbs	10,420,321	20,823,577	2,720,540	....	10,412	1,360	11,772
Total other articles	....	....	....	22,959	10,570	2,766	36,295
Total	....	....	....	1,120,538	282,230	128,223	1,530,991

(No. 9.)

STATEMENT of the tons of merchandise, furniture and salt going to other States, in 1876.

	Merchandise.	Furniture.	Salt.
By way of Buffalo	3,270	1	33,178
Oswego	2,793	8	12,337
Whitehall	13,710	5	2,496
	19,773	14	48,011

The merchandise and furniture by way of Buffalo and Oswego went to other States as follows, viz.:

STATES.	BY WAY OF BUFFALO.		BY WAY OF OSWEGO.	
	Merchandise.	Furniture.	Merchandise.	Furniture.
Pennsylvania	....	......	....	....
Ohio	124	......	12	....
Michigan	67	......	34	....
Indiana	1	......	....	....
Illinois	2,341	1	246	....
Wisconsin	406	......	217	....
Kentucky	....	......	....	....
Missouri	....	......	2	....
Tennessee	....	......	....	....
Minnesota	4	......	....	....
Iowa	20	......	4	....
Kansas	....	......	....	....
Nebraska	....	......	....	....
Canada	307	......	2,278	8
Colorado Territory	....	......	....	....
	3,270	1	2,793	8

The merchandise and furniture by way of Whitehall, in 1876, went to other States, as follows:

STATES.	Merchandise.	Furniture.
Canada	11,355	5
Vermont	2,355	....
Western States	....	....
	13,710	5

(No. 10.)

STATEMENT of the tolls collected at each office on the New York State canals, for different years, from 1857 *to* 1876, *both inclusive.*

OFFICES.	1857.	1858.	1859.	1860.	1861.	1862.	1863.
New York	$165,442	$84,318	$64,383	$118,773	$87,526	$71,934	$79,543 77
Albany	74,324	71,858	65,298	45,847	38,106	63,794	54,111 73
West Troy	232,438	122,210	99,233	202,733	142,487	237,474	244,466 31
Schenectady ...	9,525	5,173	6,591	6,155	5,920	3,607	3,631 00
Fultonville .. .	4,652	4,643	5,004	4,654	9,113	5,513	6,183 56
Little Falls	5,920	5,028	3,937	4,177	4,297	2,807	3,585 11
Utica	36,224	31,230	23,511	37,517	34,151	36,476	39,680 40
Rome	32,412	32,993	32,124	27,848	26,518	29,760	27,756 18
Syracuse	31,152	31,292	35,379	51,933	60,290	64,904	59,176 10
Jordan*	38,490	38,464	25,906	....	....	....	....
Montezuma ...	18,690	22,317	23,557	127,426	276,868	278,195	103,699 59
Lyons†	8,436	9,897	9,722	8,898	10,644	....	....
Palmyra.......	10,473	14,994	21,131	34,438	15,145	17,244	21,261 34
Rochester	76,916	89,724	57,715	88,365	101,715	133,758	129,112 11
Brockport	24,819	101,171	37,270	55,415	33,041	6,394	10,341 36
Albion	16,798	14,378	9,796	30,026	15,567	39,676	43,243 68
Medina†	11,800	16,296	12,361	18,036	14,156	....	....
Lockport	17,331	30,503	24,041	30,996	32,264	56,464	81,201 00
Tonawanda	30,272	30,291	27,948	73,774	41,535	51,367	59,668 77
Black Rock‡...	....	....	....	....	....	....	....
Buffalo	198,470	719,683	552,432	1,137,316	2,102,000	3,084,082	2,682,335 27
Waterford	16,044	14,760	16,019	17,735	15,034	23,070	26,299 72
Schuylerville...	9,030	....	....	....	....	....	....

Glen's Falls§ ..	11,162	....	....	....	....	....	....
Fort Edward...	....	17,912	19,673	19,832	22,545	21,262	28,322 16
Whitehall	51,976	51,072	58,056	67,203	41,053	63,048	88,123 56
Salina.........	13,908	102,353	23,906	20,627	27,029	37,541	45,052 26
Phœnix	20,282	46,508	17,159	100,952	24,752	35,337	27,591 21
Oswego	270,638	194,135	232,774	439,888	539,434	586,759	537,706 84
Seneca Falls† ..	9,283	10,158	5,902	9,624	10,059	....	....
Geneva	17,452	20,630	23,651	35,332	27,409	43,210	44,178 68
Ithaca*	12,008	6,157	8,851	....	....	....	....
Havana	10,672	4,886	7,740	11,089	11,730	16,522	16,334 10
Horseheads	16,228	22,292	26,516	38,651	30,355	39,170	22,959 12
Corning	53,869	45,309	46,679	30,423	21,214	31,299	52,686 02
Dresden§	....	....	....	....	....	....	....
Penn Yan	8,833	9,905	7,736	10,287	8,412	13,311	6,876 03
Hamilton......	4,959	3,367	3,324	2,682	3,501	2,330	3,598 64
Oxford	2,681	1,910	2,392	2,129	2,204	2,081	2,273 42
Binghamton ...	7,789	7,129	9,606	15,184	15,728	14,574	15,781 19
Scottsville†	3,330	4,004	2,257	4,535	2,884	....	....
Mount Morris..	11,372	10,338	11,170	8,682	6,422	9,276	6,314 54
Dansville	4,252	4,277	2,636	3,449	1,741	1,480	1,243 71
Oramel*	17,599	13,313	11,446	....	....	....	....
Caneadea	....	....	....	11,109	7,852	9,850	13,157 55
Olean	10,914	28,487	31,361	38,733	22,789	39,648	38,008 20
Boonville	11,065	9,215	12,114	18,606	12,675	15,926	19,714 88
Higgins†	5,711	5,194	4,629	3,519	2,620	....	....
Baldwinsville† .	....	....	....	....	....	....	....
	$2,045,641	$2,110,754	$1,723,945	$3,009,597	$3,908,785	$5,188,943	$4,645,207 11

* Office discontinued in 1860. † Office discontinued in 1862. ‡ Office discontinued in 1867. § Office discontinued in 1858.

STATEMENT No. 10 — (*Continued*).

OFFICES.	1864.	1865.	1866.	1867.
New York	$119,468 84	$150,591 16	$190,609 74	$159,853 65
Albany	53,147 57	44,116 69	62,782 46	75,502 31
West Troy	205,070 43	149,917 23	197,035 81	254,035 49
Schenectady	3,469 26	4,894 14	5,652 66	4,656 93
Fultonville	4,564 98	4,018 53	3,192 86	3,816 18
Little Falls	3,337 60	3,203 79	3,774 67	2,896 02
Utica	36,540 40	37,723 28	34,206 58	25,358 22
Rome	26,462 58	63,652 64	92,990 64	108,722 54
Syracuse	67,132 93	68,484 89	71,115 89	67,703 02
Jordan *	....	....	....	....
Montezuma	114,113 10	134,819 96	90,201 96	77,343 74
Lyons †	....	....	....	....
Palmyra	14,675 85	23,477 18	19,537 42	21,162 17
Rochester	100,448 13	104,897 98	70,735 67	61,606 41
Brockport	7,450 23	11,756 61	12,214 20	9,510 79
Albion	30,867 85	43,105 48	35,071 62	23,295 60
Medina †	....	....	....	....
Lockport	82,555 74	59,007 96	142,184 99	45,861 75
Tonawanda	88,671 16	94,303 34	68,810 59	81,312 85
Black Rock ‡	....	....	....	....
Buffalo	2,162,907 57	1,935,223 76	2,272,055 69	2,055,726 72
Waterford	30,917 87	25,405 67	37,304 01	38,659 03
Schuylerville	....	....	....	....
Glens Falls §	....	....	....	....
Fort Edward	32,550 36	31,039 45	31,526 80	32,434 92
Whitehall	88,420 62	100,440 31	114,717 72	115,429 40

Salina	42,758,31	40,298 38	52,679 60	43,702 06
Phœnix	22,676,01	45,548 43	26,674 13	19,713 09
Oswego	415,856 88	477,446 56	552,520 12	560,712 71
Seneca Falls †	....	....	....	....
Geneva	66,620 77	82,369 31	85,005 13	75,669 63
Ithaca *	....	....	....	....
Havana ‖	11,214 00	9,842 34	10,735 82	9,365 94
Watkins ¶	....	....	....	....
Horseheads	19,366 15	12,528 25	36,274 96	13,156 55
Corning	47,778 35	22,536 28	22,539 74	25,328 89
Dresden §	....	....	....	....
Penn Yan	4,548 26	6,553 88	10,261 72	4,668 45
Hamilton	3,812 36	3,800 39	5,609 81	3,289 28
Oxford	1,921 87	1,685 63	1,535 34	1,839 16
Binghamton	14,294 01	10,191 01	16,623 98	17,378 07
Scottsville †	....	....	....	....
Mount Morris	5,960 48	3,918 44	3,542 65	3,268 54
Dansville	990 63	756 49	1,164 72	1,277 17
Oramel *	....	....	....	....
Caneadea	10,475 08	6,127 37	7,595 54	4,962 24
Olean	23,120 80	8,769 22	24,281 57	16,207 40
Boonville	19,814 80	17,502 77	23,870 49	22,631 02
Higgins †	....	....	....	....
Baldwinsville ‡	....	....	....	....
Lyons Falls ¶	....	....	....	....
	$3,983,981 83	$3,839,954 80	$4,436,637 30	$4,088,057 94

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* Office discontinued in 1860.
§ Office discontinued in 1858.
† Office discontinued in 1862, and re-established in 1869.
‖ Office discontinued in 1868.
‡ Office discontinued in 1857.
¶ Office established in 1868.

STATEMENT No. 10—(*Continued*).

OFFICES.	1868.	1869.	1870.	1871.
New York	$236,788 35	$173,684 59	$108,087 11	$170,413 77
Albany	85,070 93	45,698 76	38,094 81	28,370 77
West Troy	240,686 24	170,381 23	162,073 11	94,679 41
Schenectady	5,799 10	5,759 61	5,491 06	6,533 22
Fultonville	3,740 58	3,227 07	3,680 42	3,113 78
Little Falls	3,909 85	3,163 19	2,293 33	1,844 17
Utica	34,350,85	19,513 87	20,543 45	18,577 64
Rome	168,230 29	217,838 42	114,455 19	165,829 96
Syracuse	67,045 22	98,798 87	47,728 85	53,741 58
Jordan *	....	....	....	....
Montezuma	94,955 18	72,811 04	59,329 96	55,763 69
Lyons †	....	....	....	....
Palmyra	19,424 34	23,718 89	26,753 57	23,638 88
Rochester	53,847 94	60,356 29	34,952 90	21,844,08
Brockport	5,598 84	7,538 90	5,808 47	12,128 28
Albion	16,207 51	8,897 81	8,112 92	7,164 56
Medina †	....	70,717 18	56,387 65	183,374 33
Lockport	50,106 41	10,742 50	7,146 15	14,856 04
Tonawanda	65,518 19	92,138 49	89,216 91	104,201 35
Black Rock ‡	....	....	....	....
Buffalo	2,040,007 82	1,644,642 16	1,060,055 03	1,389,910 41
Waterford	42,675 77	36,986 04	27,171,67	26,443 19
Schuylerville	....	....	....	....
Glens Falls §	....	....	....	....
Fort Edward	39,299 34	33,696 70	24,653 06	27,605 18
Whitehall	105,476 24	106,578 54	91,923 47	85,764 83

Salina	48,924 34	42,503 26	26,191 05	32,417 07
Phœnix	31,721 87	35,642 36	33,174 46	34,954 23
Oswego	563,394 28	563,799 51	391,166 60	402,210 06
Seneca Falls †	....	....	....	....
Geneva	101,021 45	103,762 16	61,485 87	49,096 10
Ithaca *	....	....	....	....
Havana ‖	....	....	....	....
Watkins ¶	11,762 11	31,266 06	25,627 05	23,487 10
Horseheads	9,109 97	10,706 79	1,830 58	1,569 12
Corning	17,078 71	13,533 96	8,738 06	7,108 40
Dresden §	....	....	....	....
Penn Yan	2,921 07	6,311 50	3,111 25	4,488 64
Hamilton	2,878 39	1,696 16	1,545 47	886 37
Oxford	1,536 10	1,383 95	990 83	350 05
Binghamton	18,588 02	12,920 77	9,759 93	3,530 20
Scottsville †	....	....	....	....
Mount Morris	4,960 44	2,888 43	2,971 13	2,013 93
Dansville	864 65	1,538 16	380 88	343 05
Oramel *	....	....	....	....
Caneadea	7,971 17	3,998 98	2,728 77	2,852 53
Olean	24,336 48	16,999 39	21,864 27	17,223 69
Boonville	13,460 57	11,816 94	12,503 65	8,150 81
Higgins *	....	....	....	....
Baldwinsville ‡	....	....	....	....
Lyons Falls ††	7,294 95	10,842 65	13,548 74	14,268 36
	$4,246,563 56	$3,778,501 18	$2,611,577 68	$3,100,838 82

STATEMENT No. 10 — (*Continued*).

OFFICES.	1872.	1873.	1874.	1875.	1876.
New York	$104,491 45	$119,830 68	$93,912 32	$60,977 13	$42,146 00
Albany	38,101 09	32,783 49	36,481 50	23,043,46	25,435 07
West Troy	99,779 15	80,685 14	72,307 35	53,944 07	47,373 92
Schenectady	7,299 30	6,257 59	5,781 02	4,447 11	4,073 29
Fultonville	2,344 86	2,773 86	2,459 46	2,116 35	1,967 83
Little Falls	2,171 05	1,850 88	1,651 53	1,252 48	1,306 46
Utica	10,876 27	11,747 64	13,957 57	8,500 82	7,786 57
Rome	202,162 65	215,921 00	147,068 72	10,065 38	6,710 51
Syracuse	42,894 89	48,542 52	36,471 19	38,050 66	26,524 24
Jordan*	....	....	....	....	....
Montezuma	69,883 38	77,637 57	61,843 22	66,834 61	45,943 49
Lyons†	....	....	....	....	....
Palmyra	19,152 06	21,683 23	18,537 41	14,098 43	9,716 33
Rochester	18,486 74	21,304 12	16,286 26	6,932 04	10,066 58
Brockport	5,342 27	5,299 72	7,141 27	7,129 33	6,909 48
Albion	4,283 86	39,010 32	19,584 95	6,254 03	5,952 54
Medina†	147,091 99	153,502 39	102,631 66	27,804 60	30,740 93
Lockport	7,758 39	16,435 29	8,114 01	5,384 56	7,106 86
Tonawanda	100,540 12	142,185 58	215,668 36	130,838 31	180,119 58
Black Rock‡	....	....	....	....	....
Buffalo	1,416,049 31	1,415,634 33	1,196,780 57	789,830 24	583,644 42
Waterford	33,177 41	29,896 37	30,499 55	25,434 81	17,827 54
Schuylerville	....	....	....	....	....
Glens Falls§	....	....	....	....	....
Fort Edward	33,743 18	22,997 73	30,773 43	19,128 63	17,078 88
Whitehall	97,106 91	72,520 12	63,492 44	44,161 89	39,386 47

Salina.	37,912 16	30,533 38	29,271 07	33,350 92	21,849 34
Phœnix	12,103 59	6,875 09	10,936 39	4,751 17	....
Oswego	338,155 08	264,166 44	289,787 37	130,779 67	102,624 59
Seneca Falls†	....	....	....	....	....
Geneva	46,044 16	49,158 45	42,088 61	23,291 79	19,304 17
Ithaca*	....	....	....	....	....
Havana‖	....	....	....	....	....
Watkins¶	22,737 26	30,2[illegible]6 94	33,298 83	25,353 21	29,702 55
Horseheads‡‡	1,144 49	737 16	375 87	....	....
Corning	6,961 02	5,122 79	3,668 55	1,963 92	3,576 58
Dresden§	....	....	....	....	....
Penn Yan‡‡	1,842 82	2,091 29	953 31	....	....
Hamilton‡‡	799 10	890 35	555 57	....	....
Oxford §§	450 53	1,378 05	1,092 33	....	1,651 48
Binghamton §§§	1,499 15	1,506 43	1,736 10	1,262 33	....
Scottsville†	....	....	....	....	....
Mount Morris	3,449 37	3,739 51	3,331 84	2,617 38	5,471 75
Dansville††	295 05	287 90	....	....	....
Oramel*	....	....	....	....	....
Caneadea‡‡	3,295 42	3,451 80	1,531 93	....	....
Olean	15,889 72	14,539 56	9,301 52	7,500 03	14,663 72
Boonville	10,441 33	8,128 00	27,697 84	12 932 89	23,342 13
Higgins**	....	....	....	....	....
Baldwinsville‡	....	....	....	....	....
Lyons Falls††	16,655 14	15,376 76	....	....	....
	$3,072,411 72	$2,976,718 54	$2,637,070 92	$1,590,032 25	$1,340,003 30

†† Discontinued in 1874. ‡‡ Discontinued in 1875 and re-established in 1876. §§ Discontinued in 1875 and re-established in 1876. §§§ Discontinued in 1876.

(No. 11.)

STATEMENT of the tons and value of each article transported on the canals for different years, from 1866 *to* 1876.

ARTICLES.	1866.		1867.	
	Tons.	Value.	Tons.	Value.
THE FOREST.				
Fur and peltry	418	$1,673,200	283	$1,130,100
Product of wood.				
Boards and scantling	1,203,469	18,336,602	1,310,006	19,442,507
Shingles	20,441	842,333	14,538	589,305
Timber	160,778	2,051,786	110,742	2,003,820
Staves	152,374	5,329,151	160,847	5,448,484
Wood	231,884	421,279	135,387	247,499
Ashes, pot and pearl	630	100,470	12,449	115,055
Total of the forest	1,769,994	$28,754,821	1,744,252	$28,977,470
AGRICULTURE.				
Product of animals.				
Pork	1,776	$321,404	910	$130,689
Beef	391	54,907	274	27,766
Bacon	33	9,166	46	12,738
Cheese	7,734	2,465,835	6,700	1,962,237
Butter	590	450,947	747	511,765

Lard, tallow and lard oil	149	54,628	877	259,423
Wool	1,476	1,506,658	931	837,908
Hides	6,661	2,514,251	6,129	1,932,676
Total product of animals	18,810	$7,377,796	16,614	$5,675,202
Vegetable food.				
Flour	81,202	$8,673,350	61,947	$7,419,482
Wheat	329,694	22,521,061	408,909	28,723,900
Rye	49,054	1,722,019	29,250	1,547,091
Corn	809,316	26,326,456	502,054	18,623,545
Corn meal	1,941	84,673	1,383	65,378
Barley	188,809	8,655,789	119,334	6,304,236
Barley malt	9,841	786,559	7,917	603,664
Oats	194,212	5,827,930	167,616	7,318,666
Bran and ship stuffs	24,381	769,665	12,633	348,331
Peas and beans	16,100	642,215	24,814	1,146,597
Apples	17,428	229,175	42,499	1,551,700
Potatoes	41,827	868,867	37,862	983,436
Dried fruit	126	47,237	119	35,473
Total vegetable food	1,763,931	$77,854,997	1,415,887	$74,671,499
All other agricultural products.				
Cotton	1,030	$701,726	782	$467,322
Unmanufactured tobacco	505	213,152	522	249,484
Hemp	60	11,385	26	4,867
Clover and grass seed	405	63,544	595	73,995

STATEMENT No. 11—(*Continued*).

ARTICLES.	1866.		1867.	
	Tons.	Value.	Tons.	Value.
Flax seed	924	$79,721	3,954	$369,234
Hops	395	308,613	138	105,060
Total all other agricultural products	3,319	$1,378,141	6,016	$1,269,962
Total agricultural products	1,786,060	$86,610,934	1,438,517	$81,616,663
MANUFACTURES.				
Domestic spirits	930	$518,364	377	$249,923
Oil meal and cake	2,095	127,504	2,469	147,532
Leather	5,115	5,213,437	5,603	4,518,552
Furniture	2,995	1,423,713	2,453	998,204
Bar and pig lead	262	81,541	499	96,390
Pig iron	51,084	2,935,175	46,490	2,389,622
Bloom and bar iron	11,618	1,179,965	10,528	871,249
Castings and iron ware	15,829	2,595,019	16,335	2,520,292
Domestic woolens	174	93,946	155	393,400
Domestic cottons	302	567,138	336	635,419
Domestic salt	207,166	3,420,895	329,640	3,759,253
Foreign salt	4,671	233,295	5,959	297,498
Total manufactures	302,241	$18,389,992	320,844	$16,877,334

MERCHANDISE	179,878	$100,169,211	219,880	$108,545,569
OTHER ARTICLES.				
Live cattle, hogs and sheep	46	$8,662	96	$19,109
Stone, lime and clay	235,101	4,340,311	244,830	4,983,831
Gypsum	59,724	594,815	42,460	498,540
Mineral coal	....	....	....	....
Anthracite coal	690,612	5,260,091	773,120	5,665,218
Bituminous coal	446,001	2,804,790	509,474	3,155,822
Copper ore	2,073	1,035,317	2,380	1,191,568
Iron ore	183,937	1,695,352	191,439	1,887,686
Sundries	119,553	21,299,420	201,033	25,537,902
Total other articles	1,737,047	$37,038,718	1,964,832	$42,939,676
Total	5,775,220	$270,963,676	5,688,325	$278,956,712

ARTICLES.	1868.		1869.	
	Tons.	Value.	Tons.	Value.
THE FOREST.				
Fur and peltry	11	$18,902	11	$11,420
Product of wood.				
Boards and scantling	1,467,040	18,151,144	1,504,750	18,247,591
Shingles	17,076	606,289	15,802	422,679
Timber	86,688	853,734	116,027	1,190,879
Staves	218,842	2,186,765	101,027	1,043,606
Wood	152,769	269,852	90,995	162,804
Ashes, pot and pearl	15,883	1,952,905	27,318	851,676
Total of the forest	1,958,309	$34,930,591	1,855,930	$21,930,655
AGRICULTURE.				
Product of animals.				
Pork	818	$129,259	532	$103,782
Beef	351	36,361	24	2,275
Bacon	... .	....	....	....
Cheese	7,676	1,458,405	4,023	1,319,209
Butter	971	548,506	555	444,169
Lard, tallow and lard oil	607	194,504	120	42,030

Wool	1,124	906,041	1,087	861,724
Hides	6,259	2,054,980	2,350	728,796
Total product of animals	18,076	$5,326,056	8,691	$3,501,985
Vegetable food.				
Flour	62,197	$6,028,028	72,051	$4,875,398
Wheat	432,767	25,641,931	670,534	26,823,950
Rye	24,454	1,228,599	13,489	547,793
Corn	516,239	18,624,485	256,875	8,355,257
Corn meal	1,605	118,491	1,368	68,700
Barley	88,754	5,262,179	99,012	4,319,498
Barley malt	4,488	1,467,838	5,782	411,700
Oats	190,836	8,316,411	92,309	2,969,554
Bran and ship stuffs	16,181	396,819	17,088	380,232
Peas and beans	11,750	562,476	11,377	764,682
Apples	31,523	1,394,847	38,266	1,458,147
Potatoes	31,293	655,869	25,949	410,710
Dried fruit	88	30,552	113	30,619
Total vegetable food	1,419,175	$69,728,525	1,302,613	$51,416,240
All other agricultural products.				
Cotton	703	$387,486	376	$208,147
Unmanufactured tobacco	218	56,702	251	115,244
Hemp	2	342	34	2,360
Clover and grass seed	462	533,589	92	17,680

STATEMENT No. 11—(*Continued*).

ARTICLES.	1868.		1869.	
	Tons.	Value.	Tons.	Value.
Flax seed	3,419	$311,757	1,680	$137,501
Hops	92	39,199	334	129,668
Total all other agricultural products	4,896	$1,329,075	2,767	$610,600
Total agricultural products	1,442,147	$76,383,656	1,314,071	$55,528,825
MANUFACTURES.				
Domestic spirits	338	$11,270	1,682	$466,298
Oil and meal cake	2,122	122,569	2,046	104,421
Leather	5,385	4,138,822	2,488	1,727,218
Furniture	2,952	1,318,290	2,124	853,546
Bar and pig lead	112	16,861	76	13,503
Pig iron	59,434	2,462,000	41,984	1,702,690
Bloom and bar iron	7,657	492,556	14,034	781,806
Castings and iron ware	20,207	2,446,607	14,198	2,062,510
Domestic woolens	142	828,055	252	1,051,996
Domestic cottons	459	874,378	792	435,419
Domestic salt	266,760	4,239,198	258,927	4,275,579
Foreign salt	7,694	247,368	3,726	120,856
Total manufactures	373,262	$17,298,574	342,239	$13,595,892

MERCHANDISE	324,064	$131,786,764	268,970	$103,464,505
OTHER ARTICLES.				
Live cattle, hogs and sheep	26	$4,769	31	$6,458
Stone, lime and clay	237,280	4,275,046	301,590	4,688,210
Gypsum	56,947	449,367	61,331	366,132
Mineral coal	....	....	....	....
Anthracite coal	1,057,388	6,301,279	656,104	4,303,463
Bituminous coal	554,301	3,703,866	668,304	3,585,962
Copper ore	425	170,249	277	27,780
Iron ore	210,375	972,729	183,992	1,223,340
Sundries	227,701	39,916,039	206,241	40,560,062
Total other articles	2,344,443	$55,793,344	2,077,870	$54,761,407
Total	6,442,225	$305,301,929	5,859,080	$249,218,284

STATEMENT No. 11 — (*Continued*).

ARTICLES.	1870.		1871.	
	Tons.	Value.	Tons.	Value.
THE FOREST.				
Fur and peltry	1	$428	....	....
Product of wood.				
Boards and scantling	1,559,946	18,611,765	1,483,678	$18,876,851
Shingles	17,626	423,135	197,953	488,019
Timber	85,406	1,161,924	69,526	579,602
Staves	145,758	1,734,290	97,598	711,527
Wood	98,150	172,899	81,860	121,838
Ashes, pot and pearl	9,624	161,743	10,682	127,719
Total of the forest	1,916,511	$22,266,184	1,941,297	$20,905,556
AGRICULTURE.				
Product of animals.				
Pork	170	$26,191	657	$60,274
Beef	212	21,168	204	15,312
Bacon	....	....	....	....
Cheese	5,216	1,481,792	3,197	779,340
Butter	379	241,981	102	57,144
Lard, tallow and lard oil	42	9,421	211	42,403

Wool	1,114	976,711	1,134	1,165,053
Hides	3,572	1,127,411	3,138	930,418
Total product of animals	10,705	$3,884,675	8,643	$3,049,944
Vegetable food.				
Flour	54,978	$3,387,313	41,211	$2,724,892
Wheat	658,524	23,636,402	748,549	33,958,245
Rye	19,520	615,984	34,563	1,130,294
Corn	193,129	4,924,314	672,057	14,643,436
Corn meal	1,323	58,791	714	28,183
Barley	128,191	4,846,008	113,992	4,931,930
Barley malt	13,977	922,703	14,024	919,573
Oats	117,941	3,857,748	129,891	3,280,704
Bran and ship stuffs	14,007	295,372	10,739	241,831
Peas and beans	6,784	277,447	4,881	200,381
Apples	67,241	1,415,597	39,845	1,560,342
Potatoes	24,303	543,123	39,534	724,799
Dried fruit	90	11,290	198	50,364
Total vegetable food	1,295,010	$44,796,092	1,850,198	$64,394,974
All other agricultural products.				
Cotton	706	$249,781	633	$234,728
Unmanufactured tobacco	170	60,328	151	35,482
Hemp	22	9,301	5	2,953
Clover and grass seed	6	1,873	30	5,794

STATEMENT No. 11—(*Continued*).

ARTICLES.	1870.		1871.	
	Tons.	Value.	Tons.	Value.
Flax seed	2,458	$212,663	4,115	$341,795
Hops	76	21,199	93	64,612
Total all other agricultural products	3,438	$555,145	5,027	$685,364
Total agricultural products	1,309,153	$49,231,912	1,863,868	$68,130,282
MANUFACTURES.				
Domestic spirits	573	$119,356	423	$85,154
Oil meal and cake	1,557	87,489	1,944	81,591
Leather	1,903	1,171,095	1,094	659,797
Furniture	1,342	576,049	1,248	441,816
Bar and pig lead	505	95,102	480	96,071
Pig iron	45,089	1,482,802	57,209	2,104,431
Bloom and bar iron	13,778	628,028	15,546	979,998
Castings and iron ware	10,436	1,281,556	8,256	1,037,828
Domestic woolens	229	878,763	610	617,204
Domestic cottons	345	283,635	769	672,744
Domestic salt	263,437	4,065,997	246,220	4,026,082
Foreign salt	3,303	108,025	2,489	78,824
Total manufactures	342,497	$10,777,897	336,288	$10,881,540

MERCHANDISE	271,856	$94,852,914	288,428	$78,898,185
OTHER ARTICLES.				
Live cattle, hogs and sheep	13	$31,900	8	$848
Stone, lime and clay	315,356	4,251,316	343,254	4,320,253
Gypsum	34,398	159,969	36,334	518,141
Anthracite coal	896,260	5,102,999	602,044	3,736,263
Bituminous coal	661,925	1,186,131	591,998	843,924
Copper ore	....	....	123	49,320
Iron ore	238,802	1,533,691	289,952	1,867,473
Sundries	186,998	40,441,263	174,299	42,212,159
Total other articles	2,333,752	$54,707,269	2,038,007	$53,548,381
Total	6,173,769	$231,836,176	6,467,888	$238,767,691

STATEMENT No. 11—(*Continued*).

ARTICLES.	1872.		1873.	
	Tons.	Value.	Tons.	Value.
THE FOREST.				
Fur and peltry	3	$13,200	28	$113,600
Product of wood.				
Boards and scantling	1,671,721	23,262,789	1,300,599	16,027,433
Shingles	11,848	383,868	7,215	231,404
Timber	69,585	778,708	72,261	900,962
Staves	114,574	1,113,625	111,888	1,210,304
Wood	81,796	108,274	89,392	129,702
Ashes, pot and pearl	1,271	22,270	689	38,433
Total of the forest	1,950,798	$25,682,734	1,582,072	$18,651,838
AGRICULTURE. *Product of animals.*				
Pork	985	$146,416	147	$13,057
Beef	1,632	306,940	....	....
Bacon	11	1,728	8	1,420
Cheese	1,547	394,008	1,426	360,264
Butter	27	14,846	10	11,597
Lard, tallow and lard oil	52	6,935	21	84,601

Wool	471	551,618	710	585,869
Hides	1,014	172,229	491	88,452
Total product of animals	5,739	$1,594,720	2,813	$1,145,260
Vegetable food.				
Flour	20,534	$1,451,675	19,307	$1,388,207
Wheat	403,903	18,617,867	803,064	34,538,743
Rye	13,357	359,747	30,160	855,521
Corn	902,753	16,251,503	637,296	11,425,250
Corn meal	653	17,991	1,009	13,002
Barley	120,061	4,769,101	70,586	4,229,388
Barley malt	27,631	1,416,639	17,737	1,452,743
Oats	92,959	2,106,639	70,023	1,658,709
Bran and ship stuffs	11,331	236,880	9,267	161,197
Peas and beans	4,398	122,441	11,799	230,479
Apples	33,694	850,459	34,176	1,469,053
Potatoes	42,936	935,869	40,680	910,197
Dried fruit	110	24,213	67	10,544
Total vegetable food	1,674,320	$47,161,024	1,745,171	$58,343,033
All other agricultural products.				
Cotton	778	$460,247	1,172	$583,723
Unmanufactured tobacco	130	91,677	66	31,322
Hemp	55	10,935	72	18,097
Clover and grass seed	....	....	15	2,688

STATEMENT No. 11 — (*Continued*).

ARTICLES.	1872.		1873.	
	Tons.	Value.	Tons.	Value.
Flax seed	2,916	$205,312	1,103	$66,271
Hops	24	17,344	6	4,515
Total all other agricultural products	3,903	$785,515	2,434	$706,616
Total agricultural products	1,683,962	$49,541,259	1,750,418	$60,194,909
MANUFACTURES.				
Domestic spirits	257	$90,333	275	$66,821
Oil meal and cake	2,021	95,266	2,220	102,083
Leather	437	290,087	182	101,641
Furniture	595	144,957	528	124,353
Bar and pig lead	190	29,341	120	18,904
Pig iron	55,123	2,315,114	26,904	1,051,032
Bloom and bar iron	11,165	895,143	12,115	972,392
Castings and iron ware	7,133	1,041,205	8,705	1,337,172
Domestic woolens	20	86,317	30	39,281
Domestic cottons	65	42,932	35	20,700
Domestic salt	244,222	2,540,485	212,730	2,064,844
Foreign salt	4,336	88,667	3,976	80,433
Total manufactures	325,564	$7,659,547	267,820	$5,979,656

MERCHANDISE	298,758	$93,997,415	172,990	$76,173,336
OTHER ARTICLES.				
Live cattle, hogs and sheep	2	$110	2	$310
Stone, lime and clay	398,188	3,502,057	415,304	3,448,546
Gypsum	40,535	181,006	52,513	224,286
Anthracite coal	936,793	5,335,787	967,593	6,070,617
Bituminous coal	525,797	3,007,453	658,266	2,685,622
Copper ore	....	....	....	....
Iron ore	377,592	2,366,642	415,968	3,193,085
Sundries	135,381	19,722,311	81,836	15,093,295
Total other articles	2,414,288	$34,115,366	2,591,482	$30,715,761
Total	6,673,370	$220,913,321	6,364,782	$191,715,500

STATEMENT No. 11—(*Continued*).

ARTICLES.	1874.		1875.		1876.	
	Tons.	Value.	Tons.	Value.	Tons.	Value.
THE FOREST.						
Fur and peltry	....	....	....	....	....	....
Product of wood.						
Boards and scantling	1,217,245	$14,889,481	1,055,107	$10,983,367	1,011,925	$10,076,145
Shingles	10,486	301,058	8,956	236,144	6,969	173,510
Timber	82,537	902,244	54,351	518,393	31,193	343,882
Staves	97,219	1,480,967	50,389	628,866	37,356	419,169
Wood	74,441	102,050	78,541	104,084	84,613	115,384
Ashes, pot and pearl	825	164,556	3,202	7,815	3,257	4,876
Total of the forest	1,482,753	$17,840,356	1,250,546	$12,478,669	1,175,313	$11,132,966
AGRICULTURE.						
Product of animals.						
Pork	151	$18,277	130	$20,922	104	$12,632
Beef	3	520	....	....	....	....
Bacon	....	....	....	....	....	....
Cheese	1,631	471,948	1,281	334,442	610	152,112
Butter	21	11,669	23	13,211	128	76,308
Lard, tallow and lard oil	78	20,308	30	7,446	76	17,163

Wool	440	408,233	131	102,162	261	202,456
Hides	234	50,157	658	69,759	717	79,257
Total product of animals	2,558	$981,112	2,253	$547,942	1,896	$539,928
Vegetable food.						
Flour	29,134	$1,768,692	17,635	$1,085,163	9,290	$582,515
Wheat	772,163	32,172,276	744,293	31,203,607	416,376	15,763,545
Rye	8,215	265,796	8,309	240,139	19,949	533,295
Corn	519,203	14,099,305	282,031	7,030,306	365,254	6,754,802
Corn meal	898	33,459	324	11,883	25	766
Barley	98,654	5,920,162	104,475	4,288,575	96,494	3,910,333
Barley malt	6,798	717,276	12,475	1,173,451	26,436	1,397,364
Oats	59,408	1,982,477	62,717	1,913,154	52,147	1,153,808
Bran and ship stuffs	4,188	84,744	3,645	73,853	5,632	151,744
Peas and beans	6,017	159,142	5,856	354,804	5,226	190,771
Apples	50,724	1,194,358	35,574	1,124,107	33,355	405,127
Potatoes	212,194	4,659,685	28,181	688,257	34,018	885,952
Dried fruit	2	244	35	7,136	91	9,403
Total vegetable food	1,767,598	$63,057,616	1,305,550	$49,194,435	1,064,293	$31,739,420
All other agricultural prod'ts.						
Cotton	435	$131,220	336	$85,765	524	$99,870
Unmanufactured tobacco	16	5,003	89	38,955	40	9,474
Hemp	49	9,893	53	15,938	20	2,353
Clover and grass seed	57	8,339	....	....	29	2,219

STATEMENT No. 11—(*Continued*).

ARTICLES.	1874.		1875.		1876.	
	Tons.	Value.	Tons.	Value.	Tons.	Value.
Flax seed	1,682	$128,232	3,299	$639,918	694	$46,077
Hops	188	23,483	33	17,958	1	516
Total all other agric'l prod'ts	2,427	$306,170	3,810	$798,534	1,308	$160,509
Total agricultural products	1,732,583	$64,344,898	1,311,613	$50,540,911	1,067,497	$32,439,857
MANUFACTURES.						
Domestic spirits	167	$28,612	282	$53,443	179	$33,765
Oil meal and cake	2,459	123,158	2,973	169,328	2,704	118,709
Leather	213	121,124	6	3,964	108	61,469
Furniture	415	126,083	456	149,306	320	110,253
Bar and pig lead	173	27,764	23	4,113	34	4,872
Pig iron	40,392	1,494,772	59,158	1,505,283	44,672	1,133,788
Bloom and bar iron	22,835	1,921,241	19,936	1,436,183	16,505	765,233
Castings and iron ware	6,034	823,050	5,804	784,779	1,606	260,539
Domestic woolens	57	285,875	32	123,600	2	6,334
Domestic cottons	362	291,172	276	166,602	1	225
Domestic salt	167,801	1,752,012	184,252	1,877,247	110,965	832,336
Foreign salt	5,789	99,668	2,533	37,289	3,105	47,596
Total manufactures	246,697	$7,094,531	275,731	$6,311,137	180,201	$3,375,119

MERCHANDISE	132,181	$64,477,540	110,141	$40,885,448	64,943	$31,069,375
OTHER ARTICLES.						
Live cattle, hogs and sheep	1	$133	....	....	3	$444
Stone, lime and clay	367,009	2,814,799	275,519	$2,334,975	200,938	1,961,280
Gypsum	21,289	98,918	15,503	71,166	16,776	75,719
Anthracite coal	840,820	4,971,195	1,013,329	5,408,808	759,374	3,733,056
Bituminous coal	572,342	2,632,604	203,762	1,419,181	277,324	1,102,722
Copper ore	....	....	1	360	....	....
Iron ore	232,544	1,998,202	283,218	1,249,715	173,530	834,856
Sundries	136,369	30,401,146	120,495	24,308,205	256,230	27,364,985
Total other articles	2,170,374	$42,916,997	1,911,827	$34,792,410	1,684,175	$35,073,062
Total	5,804,588	$196,674,322	4,859,858	$145,008,575	4,172,129	$113,090,379

(12.)

TOLLS paid on each article transported on all the canals from 1862 *to* 1876.

ARTICLES.	1862.	1863.	1864.	1865.	1866.	1867.
BOATS.						
Tolls at two cents...........	$260,439	$239,491	$214,973	$191,535	$227,528	$202,028
Tolls on packets	818	2,842	558	2,048	921	840
Total boats..............	$261,257	$242,333	$215,531	$193,583	$228,449	$202,868
PASSENGERS..................	$26	$15	$15	$21	$19	$8
THE FOREST.						
Fur and peltry	$79	$15	$4	$27	$275	$184
Product of wood.						
Boards and scantling.........	436,092	448,515	591,910	505,262	698,696	777,568
Shingles	10,744	6,931	7,032	6,385	9,840	8,974
Timber	79,808	104,938	108,586	98,296	77,842	80,231
Staves	150,848	135,006	150,085	116,562	240,530	143,637
Wood........................	20,895	18,507	14,447	13,902	13,258	8,503
Ashes, pot and pearl.........	967	1,131	369	868	247	530
Total of the forest	$699,433	$715,059	$872,423	$741,302	$940,688	$1,019,627

AGRICULTURE.						
Product of animals.						
Pork	$34,391	$49,886	$14,930	$4,218	$663	$388
Beef	15,611	19,353	19,789	1,997	562	91
Bacon	1,804	1,139	181	493	3	197
Cheese	2,523	2,464	1,691	4,811	3,210	2,169
Butter	1,973	1,814	606	673	336	225
Lard, tallow, lard oil	4,483	10,457	1,633	1,048	75	683
Wool	1,315	735	1,422	1,005	626	470
Hides	3,366	3,579	4,430	4,525	4,891	4,575
Total product of animals	$65,466	$89,426	$44,682	$18,770	$10,366	$8,798
Vegetable food.						
Flour	$295,578	$282,182	$202,769	$162,919	$84,006	$57,920
Wheat	1,882,767	1,275,680	978,877	626,154	442,345	639,429
Rye	40,231	34,488	30,642	54,596	80,305	48,773
Corn	1,176,702	955,226	486,932	929,084	1,293,628	771,376
Corn meal	2,170	5,224	2,699	2,465	1,945	878
Barley	61,071	93,477	74,525	130,644	238,768	149,413
Barley malt	5,689	6,963	10,714	15,789	12,714	7,645
Oats	111,804	250,729	342,913	262,823	288,007	273,493
Bran and ship stuffs	11,759	15,701	15,349	17,031	17,449	8,106
Peas and beans	11,619	18,675	19,369	14,258	21,739	31,498
Apples	25,843	60,756	23,546	47,518	16,993	40,226
Potatoes	11,189	12,496	12,496	18,066	14,287	12,281
Dried fruit	696	1,226	526	267	100	264
Total vegetable food	$3,637,118	$3,012,823	$2,195,315	$2,281,614	$2,512,286	$2,051,302

STATEMENT No. 12 — (*Continued*).

ARTICLES.	1862.	1863.	1864.	1865.	1866.	1867.
All other agricultural prod'ts.						
Cotton	$49	$22	$23	$234	$231	$224
Unmanufactured tobacco......	504	81	140	230	137	112
Hemp	10	48	47	47	16	2
Clover and grass seed.......	622	705	1,022	466	876	1,495
Flax seed	847	3,168	5,057	2,916	625	4,050
Hops.....................	176	170	66	134	123	99
Total all other ag'l products.	$2,208	$4,194	$6,355	$4,027	$1,998	$5,982
Total agricultural products.	$3,704,792	$3,106,443	$2,246,352	$2,304,411	$2,524,650	$2,066,082
MANUFACTURES.						
Domestic spirits.............	$11,199	$16,248	$14,291	$2,533	$647	$266
Oil meal and cake...........	5,679	5,441	7,519	5,809	2,800	3,237
Leather....................	1,583	2,030	1,576	1,419	1,898	1,973
Furniture..................	3,188	3,917	4,298	2,907	2,750	2,247
Bar and pig lead............	7,509	2,594	740	1,673	390	306
Pig iron...................	22,830	29,614	24,364	23,774	39,050	28,144
Bloom and bar iron..........	1,835	2,484	3,615	3,903	3,092	2,835
Castings and iron ware.......	15,928	18,947	19,740	22,827	26,955	30,329
Domestic woolens...........	66	7	11	20	35	69
Domestic cottons............	82	31	84	86	102	111

Domestic salt	49,129	47,660	65,979	70,543	73,168	63,581
Foreign salt	47,528	8,044	5,530	8,596	2,485	4,690
Total manufactures	$161,556	$137,017	$147,747	$144,090	$153,372	$137,788
MERCHANDISE	$117,444	$137,253	$117,692	$111,879	$131,021	$163,368
OTHER ARTICLES.						
Live cattle, hogs and sheep	$50	$22	$19	$90	$34	$20
Stone, lime and clay	22,093	31,160	36,195	37,033	47,314	52,764
Gypsum	5,661	6,961	8,749	8,106	10,795	13,001
Mineral coal	....	....	....	....	....	....
Anthracite coal	88,807	115,871	140,581	125,247	207,948	227,169
Bituminous coal	39,811	44,732	89,726	87,800	86,807	97,801
Copper ore	2,278	4,753	17,643	909	1,431	1,662
Iron ore	29,241	27,264	19,445	14,926	28,675	26,205
Sundries	56,494	76,324	71,864	70,549	75,436	79,695
Total other articles	$244,435	$307,087	$384,222	$344,669	$458,440	$498,317
Total	$5,188,943	$4,645,207	$3,983,982	$3,839,955	$4,436,639	$4,088,058

STATEMENT No. 11 — (*Continued*).

ARTICLES.	1872.		1873.	
	Tons.	Value.	Tons.	Value.
Flax seed	2,916	$205,312	1,103	$66,271
Hops	24	17,344	6	4,515
Total all other agricultural products	3,903	$785,515	2,434	$706,616
Total agricultural products	1,683,962	$49,541,259	1,750,418	$60,194,909
MANUFACTURES.				
Domestic spirits	257	$90,333	275	$66,821
Oil meal and cake	2,021	95,266	2,220	102,083
Leather	437	290,087	182	101,641
Furniture	595	144,957	528	124,353
Bar and pig lead	190	29,341	120	18,904
Pig iron	55,123	2,315,114	26,904	1,051,032
Bloom and bar iron	11,165	895,143	12,115	972,392
Castings and iron ware	7,133	1,041,205	8,705	1,337,172
Domestic woolens	20	86,317	30	39,281
Domestic cottons	65	42,932	35	20,700
Domestic salt	244,222	2,540,485	212,730	2,064,844
Foreign salt	4,336	88,667	3,976	80,433
Total manufactures	325,564	$7,659,547	267,820	$5,979,656

MERCHANDISE	298,758	$93,997,415	172,990	$76,173,336
OTHER ARTICLES.				
Live cattle, hogs and sheep	2	$110	2	$310
Stone, lime and clay	398,188	3,502,057	415,304	3,448,546
Gypsum	40,535	181,006	52,513	224,286
Anthracite coal	936,793	5,335,787	967,593	6,070,617
Bituminous coal	525,797	3,007,453	658,266	2,685,622
Copper ore	....	....	....	....
Iron ore	377,592	2,366,642	415,968	3,193,085
Sundries	135,381	19,722,311	81,836	15,093,295
Total other articles	2,414,288	$34,115,366	2,591,482	$30,715,761
Total	6,673,370	$220,913,321	6,364,782	$191,715,500

STATEMENT No. 11—(*Continued*).

ARTICLES.	1874.		1875.		1876.	
	Tons.	Value.	Tons.	Value.	Tons.	Value.
THE FOREST.						
Fur and peltry	....	....	....	....	....	....
Product of wood.						
Boards and scantling	1,217,245	$14,889,481	1,055,107	$10,983,367	1,011,925	$10,076,145
Shingles	10,486	301,058	8,956	236,144	6,969	173,510
Timber	82,537	902,244	54,351	518,393	31,193	343,882
Staves	97,219	1,480,967	50,389	628,866	37,356	419,169
Wood	74,441	102,050	78,541	104,084	84,613	115,384
Ashes, pot and pearl	825	164,556	3,202	7,815	3,257	4,876
Total of the forest	1,482,753	$17,840,356	1,250,546	$12,478,669	1,175,313	$11,132,966
AGRICULTURE.						
Product of animals.						
Pork	151	$18,277	130	$20,922	104	$12,632
Beef	8	520	....	....	....	....
Bacon	....	....	....	....	....	....
Cheese	1,631	471,948	1,281	334,442	610	152,112
Butter	21	11,669	23	13,211	128	76,308
Lard, tallow and lard oil	78	20,308	30	7,446	76	17,163

Wool	440	408,233	131	102,162	261	202,456
Hides	234	50,157	658	69,759	717	79,257
Total product of animals	2,558	$981,112	2,253	$547,942	1,896	$539,928
Vegetable food.						
Flour	29,134	$1,768,692	17,635	$1,085,163	9,290	$582,515
Wheat	772,163	32,172,276	744,293	31,203,607	416,376	15,763,545
Rye	8,215	265,796	8,309	240,139	19,949	533,295
Corn	519,203	14,099,305	282,031	7,030,306	365,254	6,754,802
Corn meal	898	33,459	324	11,883	25	766
Barley	98,654	5,920,162	104,475	4,288,575	96,494	3,910,333
Barley malt	6,798	717,276	12,475	1,173,451	26,436	1,397,364
Oats	59,408	1,982,477	62,717	1,913,154	52,147	1,153,808
Bran and ship stuffs	4,188	84,744	3,645	73,853	5,632	151,744
Peas and beans	6,017	159,142	5,856	354,804	5,226	190,771
Apples	50,724	1,194,358	35,574	1,124,107	33,355	405,127
Potatoes	212,194	4,659,685	28,181	688,257	34,018	885,952
Dried fruit	2	244	35	7,136	91	9,403
Total vegetable food	1,767,598	$63,057,616	1,305,550	$49,194,435	1,064,293	$31,739,420
All other agricultural prod'ts.						
Cotton	435	$131,220	336	$85,765	524	$99,870
Unmanufactured tobacco	16	5,003	89	38,955	40	9,474
Hemp	49	9,893	53	15,938	20	2,353
Clover and grass seed	57	8,339	....	....	29	2,219

STATEMENT No. 11—(*Continued*).

ARTICLES.	1874.		1875.		1876.	
	Tons.	Value.	Tons.	Value.	Tons.	Value.
Flax seed	1,682	$128,232	3,299	$639,918	694	$46,077
Hops	188	23,483	33	17,958	1	516
Total all other agric'l prod'ts	2,427	$306,170	3,810	$798,534	1,308	$160,509
Total agricultural products.	1,732,583	$64,344,898	1,311,613	$50,540,911	1,067,497	$32,439,857
MANUFACTURES.						
Domestic spirits	167	$28,612	282	$53,443	179	$33,765
Oil meal and cake	2,459	123,158	2,973	169,328	2,704	118,709
Leather	213	121,124	6	3,964	108	61,469
Furniture	415	126,083	456	149,306	320	110,253
Bar and pig lead	173	27,764	23	4,113	34	4,872
Pig iron	40,392	1,494,772	59,158	1,505,283	44,672	1,133,788
Bloom and bar iron	22,835	1,921,241	19,936	1,436,183	16,505	765,233
Castings and iron ware	6,034	823,050	5,804	784,779	1,606	260,539
Domestic woolens	57	285,875	32	123,600	2	6,334
Domestic cottons	362	291,172	276	166,602	1	225
Domestic salt	167,801	1,752,012	184,252	1,877,247	110,965	832,336
Foreign salt	5,789	99,668	2,533	37,289	3,105	47,596
Total manufactures	246,697	$7,094,531	275,731	$6,311,137	180,201	$3,375,119

MERCHANDISE	132,181	$64.477,540	110,141	$40,885,448	64,943	$31,069,375
OTHER ARTICLES.						
Live cattle, hogs and sheep	1	$133	....	....	3	$444
Stone, lime and clay	367,009	2,814,799	275,519	$2,334,975	200,938	1,961,280
Gypsum	21,289	98,918	15,503	71,166	16,776	75,719
Anthracite coal	840,820	4,971.195	1,013,329	5,408,808	759,374	3,733,056
Bituminous coal	572,342	2,632,604	203,762	1,419,181	277,324	1,102,722
Copper ore	....	....	1	360	....	....
Iron ore	232,544	1,998,202	283,218	1,249,715	173,530	834,856
Sundries	136,369	30,401,146	120,495	24,308,205	256,230	27,364,985
Total other articles	2,170,374	$42,916,997	1,911,827	$34,792,410	1,684,175	$35,073,062
Total	5,804,588	$196,674,322	4,859,858	$145,008,575	4,172,129	$113,090,379

(12.)

TOLLS paid on each article transported on all the canals from 1862 *to* 1876.

ARTICLES.	1862.	1863.	1864.	1865.	1866.	1867.
BOATS.						
Tolls at two cents	$260,439	$239,491	$214,973	$191,535	$227,528	$202,028
Tolls on packets	818	2,842	558	2,048	921	840
Total boats	$261,257	$242,333	$215,531	$193,583	$228,449	$202,868
PASSENGERS	$26	$15	$15	$21	$19	$8
THE FOREST.						
Fur and peltry	$79	$15	$4	$27	$275	$184
Product of wood.						
Boards and scantling	436,092	448,515	591,910	505,262	698,696	777,568
Shingles	10,744	6,931	7,032	6,385	9,840	8,974
Timber	79,808	104,938	108,586	98,296	77,842	80,231
Staves	150,848	135,006	150,085	116,562	240,530	143,637
Wood	20,895	18,507	14,447	13,902	13,258	8,503
Ashes, pot and pearl	967	1,131	369	868	247	530
Total of the forest	$699,433	$715,059	$872,423	$741,302	$940,688	$1,019,627

AGRICULTURE.						
Product of animals.						
Pork	$34,391	$49,886	$14,930	$4,218	$663	$388
Beef	15,611	19,353	19,789	1,997	562	91
Bacon	1,804	1,139	181	493	3	197
Cheese	2,523	2,464	1,691	4,811	3,210	2,169
Butter	1,973	1,814	606	673	336	225
Lard, tallow, lard oil	4,483	10,457	1,633	1,048	75	683
Wool	1,315	735	1,422	1,005	626	470
Hides	3,366	3,579	4,430	4,525	4,891	4,575
Total product of animals	$65,466	$89,426	$44,682	$18,770	$10,366	$8,798
Vegetable food.						
Flour	$295,578	$282,182	$202,769	$162,919	$84,006	$57,920
Wheat	1,882,767	1,275,680	978,877	626,154	442,345	639,429
Rye	40,231	34,488	30,642	54,596	80,305	48,773
Corn	1,176,702	955,226	486,932	929,084	1,293,628	771,376
Corn meal	2,170	5,224	2,699	2,465	1,945	878
Barley	61,071	93,477	74,525	130,644	238,768	149,413
Barley malt	5,689	6,963	10,714	15,789	12,714	7,645
Oats	111,804	250,729	342,913	262,823	288,007	273,493
Bran and ship stuffs	11,759	15,701	15,349	17,031	17,449	8,106
Peas and beans	11,619	18,675	19,369	14,258	21,739	31,498
Apples	25,843	60,756	23,546	47,518	16,993	40,226
Potatoes	11,189	12,496	12,496	18,066	14,287	12,281
Dried fruit	696	1,226	526	267	100	264
Total vegetable food	$3,637,118	$3,012,823	$2,195,315	$2,281,614	$2,512,286	$2,051,302

STATEMENT No. 12 — (*Continued*).

ARTICLES.	1862.	1863.	1864.	1865.	1866.	1867.
All other agricultural prod'ts.						
Cotton	$49	$22	$23	$234	$231	$224
Unmanufactured tobacco	504	81	140	230	137	112
Hemp	10	48	47	47	16	2
Clover and grass seed	622	705	1,022	466	876	1,495
Flax seed	847	3,168	5,057	2,916	625	4,050
Hops	176	170	66	134	123	99
Total all other ag'l products.	$2,208	$4,194	$6,355	$4,027	$1,998	$5,982
Total agricultural products.	$3,704,792	$3,106,443	$2,246,352	$2,304,411	$2,524,650	$2,066,082
MANUFACTURES.						
Domestic spirits	$11,199	$16,248	$14,291	$2,533	$647	$266
Oil meal and cake	5,679	5,441	7,519	5,809	2,800	3,237
Leather	1,583	2,080	1,576	1,419	1,898	1,973
Furniture	3,188	3,917	4,298	2,907	2,750	2,247
Bar and pig lead	7,509	2,594	740	1,673	390	306
Pig iron	22,830	29,614	24,364	23,774	39,050	28,144
Bloom and bar iron	1,835	2,484	3,615	3,903	3,092	2,835
Castings and iron ware	15,928	18,947	19,740	22,827	26,955	30,329
Domestic woolens	66	7	11	20	35	69
Domestic cottons	82	31	84	86	102	111

Domestic salt	49,129	47,660	65,979	70,543	73,168	63,581
Foreign salt	47,528	8,044	5,530	8,596	2,485	4,690
Total manufactures	$161,556	$137,017	$147,747	$144,090	$153,372	$137,788
MERCHANDISE	$117,444	$137,253	$117,692	$111,879	$131,021	$163,368
OTHER ARTICLES.						
Live cattle, hogs and sheep	$50	$22	$19	$90	$34	$20
Stone, lime and clay	22,093	31,160	36,195	37,033	47,314	52,764
Gypsum	5,661	6,961	8,749	8,106	10,795	13,001
Mineral coal	....	....	....	....	....	....
Anthracite coal	88,807	115,871	140,581	125,247	207,948	227,169
Bituminous coal	39,811	44,732	89,726	87,800	86,807	97,801
Copper ore	2,278	4,753	17,643	909	1,431	1,662
Iron ore	29,241	27,264	19,445	14,926	28,675	26,205
Sundries	56,494	76,324	71,864	70,549	75,436	79,695
Total other articles	$244,435	$307,087	$384,222	$344,669	$458,440	$498,317
Total	$5,188,943	$4,645,207	$3,983,982	$3,839,955	$4,436,639	$4,088,058

STATEMENT NO. 12—(*Continued*).

ARTICLES.	1868.	1869.	1870.	1871.
BOATS.				
Tolls at two cents	$188,068	$165,273	$173,491	$186,903
Tolls on packets	1,202	5,337	597	518
Total boats	$189,270	$170,610	$174,088	$187,421
PASSENGERS	$27	$24	$737	....
THE FOREST.				
Fur and peltry	$47	$14	$8	....
Product of wood.				
Boards and scantling	848,598	888,048	768,144	$710,137
Shingles	11,490	9,386	10,097	9,159
Timber	53,541	53,307	54,632	48,301
Staves	152,901	84,806	77,220	52,273
Wood	8,174	5,358	5,369	5,340
Ashes, pot and pearl	686	476	2,086	2,134
Total of the forest	$1,075,437	$1,041,395	$917,556	$827,344
AGRICULTURE.				
Product of animals.				
Pork	$330	$157	$44	$227
Beef	142	11	52	62

Bacon	....	....	1	....
Cheese	1,830	1,673	1,610	861
Butter	215	164	136	48
Lard, tallow and lard oil	543	71	10	51
Wool	468	241	302	290
Hides	3,749	823	869	680
Total product of animals	$7,277	$3,140	$3,024	$2,219
Vegetable food.				
Flour	$56,551	$73,237	$29,171	$20,770
Wheat	665,403	1,048,658	498,632	558,227
Rye	40,494	13,009	13,783	30,911
Corn	784,613	330,067	161,838	565,722
Corn meal	838	1,432	23	44
Barley	95,007	105,354	73,706	68,374
Barley malt	8,936	5,864	11,775	12,824
Oats	303,382	114,532	93,833	108,184
Bran and shipstuffs	10,337	10,815	5,046	4,741
Peas and beans	13,126	5,823	3,710	2,442
Apples	25,100	36,805	50,850	42,825
Potatoes	13,121	9,906	10,055	7,452
Dried fruit	143	52	42	101
Total vegetable food	$2,017,051	$1,755,554	$951,964	$1,422,636
All other agricultural products.				
Cotton	$133	$121	$136	$182
Unmanufactured tobacco	256	81	36	34
Hemp	....	4	9	....

STATEMENT No. 12.—(*Continued*).

ARTICLES.	1868.	1869.	1870.	1871.
Clover and grass seed	$1,017	$13	$5	$24
Flax seed	3,298	459	1,033	3,349
Hops	21	109	20	27
Total all other agricultural products	$4,725	$787	$2,239	$3,616
Total agricultural products	$2,029,053	$1,759,481	$957,227	$1,428,471
MANUFACTURES.				
Domestic spirits	$166	$345	$124	$114
Oil meal and cake	938	362	195	247
Leather	2,174	844	518	255
Furniture	2,626	724	400	416
Bar and pig lead	99	2,491	380	924
Pig iron	34,070	10,720	9,115	8,949
Bloom and bar iron	2,092	2,507	2,111	2,175
Castings and iron ware	27,603	10,579	6,554	5,538
Domestic woolens	72	103	71	101
Domestic cottons	158	208	156	61
Domestic salt	69,771	73,722	52,390	59,643
Foreign salt	6,925	1,784	1,145	1,094
Total manufactures	$146,694	$104,389	$73,159	$79,517

MERCHANDISE	$206,395	$166,160	$132,155	$140,199
OTHER ARTICLES.				
Live cattle, hogs and sheep	$12	$13	$8	$17
Stone, lime and clay	56,115	42,596	38,044	40,162
Gypsum	13,035	7,185	4,787	3,957
Anthracite coal	290,453	167,930	115,674	71,990
Bituminous coal	110,831	133,725	82,201	68,151
Copper ore	293	207	....	1
Iron ore	28,970	24,385	18,946	24,443
Sundries	99,978	160,401	96,996	229,165
Total other articles	$599,687	$536,442	$356,658	$437,886
Total	$3,246,563	$3,778,501	$2,611,578	$3,100,838

STATEMENT No. 12—(*Continued*).

ARTICLES.	1872.	1873.	1874.	1875.	1876.
BOATS.					
Tolls at two cents	$195,606	$189,618	$160,097	$132,369	$116,464
Tolls on packets	488	182	231	109	303
Total boats	$196,094	$189,800	$160,328	$132,478	$116,767
PASSENGERS	....	....	$27	$19	$24
THE FOREST.					
Fur and peltry	$1	$13	....	....	....
Product of wood.					
Boards and scantling	749,548	632,369	$518,855	$302,274	$341,491
Shingles	6,531	4,768	7,926	4,945	3,981
Timber	40,697	48,582	62,092	22,100	18,793
Staves	72,622	68,527	60,769	29,384	19,364
Wood	4,873	5,589	5,690	2,664	4,358
Ashes, pot and pearl	313	258	95	222	476
Total of the forest	$874,585	$760,106	$718,427	$361,589	$388,463
AGRICULTURE.					
Product of animals.					
Pork	$87	$22	$19	$18	$18
Beef	94	....	1	....	1

Bacon	21	4	....	....	....
Cheese	457	329	395	187	214
Butter	12	7	9	14	60
Lard, tallow and lard oil	118	8	19	12	16
Wool	116	166	87	22	37
Hides	385	219	104	398	354
Total product of animals	$1,290	$755	$634	$651	$700
Vegetable food.					
Flour	$8,433	$8,563	$12,116	$6,260	$1,634
Wheat	231,841	736,199	695,003	466,662	249,232
Rye	9,654	25,760	4,504	3,968	11,039
Corn	896,854	602,329	500,297	185,680	239,169
Corn meal	207	169	162	58	35
Barley	79,873	42,233	42,264	40,335	37,739
Barley malt	17,147	12,923	7,215	5,798	6,137
Oats	82,430	60,525	52,389	33,391	27,740
Bran and ship stuffs	3,627	3,245	1,147	717	1,341
Peas and beans	1,707	2,327	4,280	2,909	2,886
Apples	27,125	40,779	38,507	15,186	12,635
Potatoes	16,279	9,864	13,809	12,313	6,997
Dried fruit	137	61	100	11	39
Total vegetable food	$1,469,314	$1,544,977	$1,371,793	$773,288	$596,623
All other agricultural products.					
Cotton	$89	$118	$49	$29	$64
Unmanufactured tobacco	48	14	11	29	15
Hemp	9	8	5	7	5

STATEMENT No. 12 — (*Continued*).

ARTICLES.	1872.	1873.	1874.	1875.	1876.
BOATS.					
Tolls at two cents	$195,606	$189,618	$160,097	$132,369	$116,464
Tolls on packets	488	182	231	109	303
Total boats	$196,094	$189,800	$160,328	$132,478	$116,767
PASSENGERS	....	....	$27	$19	$24
THE FOREST.					
Fur and peltry	$1	$13	....	....	....
Product of wood.					
Boards and scantling	749,548	632,369	$518,855	$302,274	$341,491
Shingles	6,531	4,768	7,926	4,945	3,981
Timber	40,697	48,582	62,092	22,100	18,793
Staves	72,622	68,527	60,769	29,384	19,364
Wood	4,873	5,589	5,690	2,664	4,358
Ashes, pot and pearl	313	258	95	222	476
Total of the forest	$874,585	$760,106	$718,427	$361,589	$388,463
AGRICULTURE.					
Product of animals.					
Pork	$87	$22	$19	$18	$18
Beef	94	....	1	....	1

Bacon	21	4	....	....	....
Cheese	457	329	395	187	214
Butter	12	7	9	14	60
Lard, tallow and lard oil	118	8	19	12	16
Wool	116	166	87	22	37
Hides	385	219	104	398	354
Total product of animals	$1,290	$755	$634	$651	$700
Vegetable food.					
Flour	$8,433	$8,563	$12,116	$6,260	$1,634
Wheat	231,841	736,199	695,003	466,662	249,232
Rye	9,654	25,760	4,504	3,968	11,039
Corn	896,854	602,329	500,297	185,680	239,169
Corn meal	207	169	162	58	35
Barley	79,873	42,233	42,264	40,335	37,739
Barley malt	17,147	12,923	7,215	5,798	6,137
Oats	82,430	60,525	52,389	33,391	27,740
Bran and ship stuffs	3,627	3,245	1,147	717	1,341
Peas and beans	1,707	2,327	4,280	2,909	2,886
Apples	27,125	40,779	38,507	15,186	12,635
Potatoes	16,279	9,864	13,809	12,313	6,997
Dried fruit	137	61	100	11	39
Total vegetable food	$1,469,314	$1,544,977	$1,371,793	$773,288	$596,623
All other agricultural products.					
Cotton	$89	$118	$49	$29	$64
Unmanufactured tobacco	48	14	11	29	15
Hemp	9	8	5	7	5

STATEMENT No. 12—(*Continued*).

ARTICLES.	1872.	1873.	1874.	1875.	1876.
Clover and grass seed	$98	$13	$47	....	$24
Flax seed	2,034	168	465	$306	154
Hops	8	2	9	6	....
Total all other agricultural products	$2,286	$323	$586	$377	$262
Total agricultural products	$1,472,890	$1,546,055	$1,373,013	$774,316	$597,585
MANUFACTURES.					
Domestic spirits	$39	$31	$44	$29	$17
Oil meal and cake	273	334	358	188	165
Leather	102	39	43	2	5
Furniture	231	159	142	168	145
Bar and pig lead	252	36	174	7	13
Pig iron	8,476	4,064	5,253	6,835	4,374
Bloom and bar iron	1,676	1,614	3,319	2,546	2,861
Castings and iron ware	3,716	6,728	4,407	2,861	702
Domestic woolens	3	7	14	5	....
Domestic cottons	14	8	50	36	....
Domestic salt	54,978	53,615	45,542	54,080	28,975
Foreign salt	1,821	1,907	2,568	926	2,474
Total manufactures	$71,581	$68,542	$61,914	$67,688	$39,731
MERCHANDISE	$160,703	$79,646	$60,110	$27,374	$14,233

OTHER ARTICLES.					
Live cattle, hogs and sheep	$1	$2	$1	....	$28
Stone, lime and clay	40,474	42,211	30,769	$25,944	17,149
Gypsum	5,686	4,835	2,412	1,530	1,603
Anthracite coal	111,979	122,783	87,213	97,601	75,945
Bituminous coal	64,771	83,772	75,973	43,705	37,134
Copper ore	....	....	....	....	....
Iron ore	32,571	31,763	15,490	17,608	12,221
Sundries	41,141	47,203	51,394	40,185	39,121
Total other articles	$296,558	$332,569	$263,252	$226,573	$183,201
Total	$3,072,411	$2,976,718	$2,637,071	$1,590,032	$1,340,004

(No. 13.)

STATEMENT of the tons and value of each article which came to the Hudson river from the canals, for different years, from 1861 *to* 1876, *both inclusive.*

ARTICLES.	1861.		1862.		1863.	
	Tons.	Value.	Tons.	Value	Tons.	Value.
THE FOREST.						
Fur and peltry	20	$51,610	22	$57,330	....	....
Product of wood.						
Boards and scantling	502,680	5,051,944	686,843	11,370,018	777,176	$11,657,654
Shingles	5,648	158,176	6,228	174,423	4,508	162,336
Timber	23,819	202,480	70,135	981,987	91,211	1,368,161
Staves	132,114	1,056,918	178,515	1,428,128	141,239	1,129,917
Wood	21,533	31,686	23,094	37,117	31,560	67,626
Ashes, pot and pearl	4,772	520,650	3,225	351,900	3,865	421,680
Total of the forest	690,586	$7,073,464	968,062	$14,400,903	1,049,559	$14,807,374
AGRICULTURE.						
Product of animals.						
Pork	1,818	$156,269	27,151	$2,204,735	37,489	$2,928,851
Beef	4,447	222,416	11,519	720,040	13,835	778,248
Bacon	308	61,690	3,366	740,718	1,857	259,922
Cheese	5,254	840,566	6,873	1,511,897	4,755	1,046,037
Butter	2,067	661,193	3,014	1,024,434	2,589	983,706

Lard, tallow and lard oil	660	145,245	5,061	1,309,318	10,388	2,181,689
Wool	927	834,106	881	863,310	217	285,430
Hides	29	12,171	233	117,101	88	53,039
Total product of animals	15,510	$2,933,656	58,098	$8,491,553	71,218	$8,516,872
Vegetable food.						
Flour	165,323	$8,419,235	197,263	$10,959,024	175,930	$9,358,914
Wheat	888,972	33,780,964	980,036	39,201,493	670,516	32,104,479
Rye	22,555	676,699	19,606	609,239	12,400	465,008
Corn	625,637	11,172,087	663,875	17,993,820	559,290	16,578,938
Corn meal	361	11,725	1,181	38,311	3,241	120,040
Barley	49,120	1,391,745	53,431	2,716,111	78,321	4,536,670
Barley malt	....	....	8,633	758,746	7,291	751,194
Oats	95,863	2,396,571	94,866	2,549,595	201,080	9,425,623
Bran and ship stuffs	16,931	677,165	10,923	590,701	13,842	830,505
Peas and beans	11,350	378,408	7,317	304,905	11,889	792,608
Apples	....	....	20,989	362,969	54,040	1,441,068
Potatoes	40,445	471,864	34,190	398,900	35,588	474,518
Dried fruits	762	152,458	330	102,073	421	143,283
Total vegetable food	1,917,319	$59,528,921	2,092,649	$76,585,887	1,823,859	$77,022,848
All other agricultural products.						
Cotton	2	$726	3	$3,348	52	$86,777
Unmanufactured tobacco	1,097	351,771	523	240,169	208	134,230
Hemp	37	5,923	61	10,979	34	6,910
Clover and grass seed	30	4,848	165	26,440	553	85,575

STATEMENT No. 13 — (*Continued*).

ARTICLES.	1861.		1862.		1863.	
	Tons.	Value.	Tons.	Value.	Tons.	Value.
Flax seed	114	$4,543	545	$21,800	2,275	$182,028
Hops	138	32,885	115	32,182	72	29,020
Total all other agricult'l prod'ts	1,418	$399,996	1,412	$334,918	3,176	$524,540
Total agricultural products	1,934,247	$62,862,573	2,152,159	$85,412,358	1,898,253	$86,064,260
MANUFACTURES.						
Domestic spirits	8,149	$529,749	6,447	$419,042	8,343	$1,168,043
Oil meal and cake	5,191	155,745	4,078	133,114	4,150	124,620
Leather	3,539	1,699,012	2,814	1,351,124	3,761	2,256,870
Furniture	345	69,055	300	59,814	332	92,909
Bar and pig lead	5,157	618,878	3,218	386,180	3,439	619,139
Pig iron	14,348	430,426	19,685	590,582	22,062	882,510
Bloom and bar iron	3,379	202,644	5,636	338,184	8,053	483,153
Castings and iron ware	336	20,087	448	26,897	548	43,923
Domestic woolens	46	64,050	92	128,800	3	4,770
Domestic cottons	76	46,020	1,984	202,800	136	216,800
Domestic salt	2,478	24,787	693	50,358	5,257	105,135
Foreign salt	30	590	107	6,453	184	5,516
Total manufactures	43,074	$3,861,034	45,502	$3,693,347	56,268	$6,003,388
MERCHANDISE	8,405	$1,377,702	5,470	$2,447,142	5,123	$2,508,451

OTHER ARTICLES.						
Live cattle, hogs and sheep	....	$40	....	....	....	....
Stone, lime and clay	34,650	346,498	21,470	$214,697	31,206	$624,102
Gypsum	796	2,387	859	2,578	1,292	25,838
Mineral coal	63,803	319,019	....	....	....	....
Anthracite coal	....	....	7,902	47,415	8,438	67,503
Bituminous coal	....	....	67,340	404,646	62,389	499,115
Copper ore	3,121	811,537	6,242	774,930	2,979	893,825
Iron ore	....	....	98,720	2,039,637	118,627	2,372,538
Sundries	201,462	4,778,505	28,983	1,738,915	40,593	7,306,900
Total other articles	303,832	$6,257,986	231,516	$5,222,818	265,524	$11,789,821
Total	2,980,144	$81,432,759	3,402,709	$111,176,568	3,274,727	$121,173,294

STATEMENT No. 13—(*Continued*).

ARTICLES.	1864.		1865.	
	Tons.	Value.	Tons.	Value.
THE FOREST.				
Fur and peltry	....	....	....	....
Product of wood.				
Boards and scantling	825,479	$16,858,620	820,892	$14,776,042
Shingles	3,854	169,631	4,262	170,470
Timber	82,422	1,648,050	74,450	1,302,892
Staves	143,125	1,986,866	111,637	1,562,917
Wood	46,475	116,189	39,356	98,392
Ashes, pot and pearl	4,793	697,280	1,019	148,360
Total of the forest	1,106,148	$19,476,636	1,051,616	$18,059,073
AGRICULTURE.				
Product of animals.				
Pork	9,433	$2,151,894	2,633	$492,348
Beef	13,234	1,985,184	1,466	274,920
Bacon	290	115,920	631	252,620
Cheese	2,258	813,261	8,760	2,452,749
Butter	725	608,931	921	607,847
Lard, tallow and lard oil	1,483	503,849	950	437,529

Wool	651	1,171,310	386	578,980
Hides	427	170,484	124	49,588
Total product of animals	28,501	$7,520,481	15,871	$5,146,581
Vegetable food.				
Flour	129,389	$11,187,260	106,894	$8,046,741
Wheat	477,502	37,199,357	313,750	19,870,830
Rye	18,122	1,035,557	31,182	1,392,060
Corn	263,556	15,060,403	513,697	15,961,297
Corn meal	1,452	107,640	1,736	88,380
Barley	75,989	5,699,295	108,566	5,337,942
Barley malt	31,293	3,619,842	11,109	918,072
Oats	219,682	13,043,664	176,102	6,493,721
Bran and ship stuffs	12,010	720,604	15,384	461,516
Peas and beans	11,409	760,614	8,040	535,916
Apples	19,967	931,787	38,005	2,526,855
Potatoes	28,438	710,940	34,641	866,057
Dried fruit	217	86,860	92	37,217
Total vegetable food	1,289,026	$90,163,823	1,359,198	$62,531,613
All other agricultural products.				
Cotton	20	$40,500	20	$28,140
Unmanufactured tobacco	317	253,320	585	467,800
Hemp	29	8,635	56	16,845
Clover and grass seed	232	64,848	95	26,488

STATEMENT No. 13—(*Continued*).

ARTICLES.	1864.		1865.	
	Tons.	Value.	Tons.	Value.
Flax seed	2,313	$277,531	3,416	$409,912
Hops	124	86,625	90	72,160
Total all other agricultural products	3,035	$731,459	4,262	$1,021,345
Total agricultural products	1,320,562	$98,416,123	1,379,331	$68,699,539
Manufactures.				
Domestic spirits	7,936	$3,095,604	1,596	$678,295
Oil meal and cake	4,987	199,470	4,611	184,432
Leather	3,064	2,451,381	3,812	3,048,580
Furniture	244	97,641	305	121,574
Bar and pig lead	1,042	333,220	1,021	327,033
Pig iron	15,576	934,548	17,002	1,020,122
Bloom and bar iron	9,179	917,856	10,306	1,030,618
Castings and ironware	442	70,453	144	23,062
Domestic woolens	16	40,875	10	24,000
Domestic cottons	91	219,600	196	448,500
Domestic salt	36,873	1,106,190	19,203	576,069
Foreign salt	30	1,468	5	235
Total manufactures	79,480	$9,468,306	58,211	$7,482,520
Merchandise	3,469	$1,870,734	4,302	$2,019,625

OTHER ARTICLES.				
Live cattle, hogs and sheep	1	$270	....	....
Stone, lime and clay	42,858	1,714,335	54,680	$2,187,175
Gypsum	1,152	46,106	1,117	44,665
Mineral coal	....	....	....	....
Anthracite coal	11,806	141,671	10,379	124,449
Bituminous coal	73,530	882,368	52,515	630,182
Copper ore	1,329	664,575	1,437	718,400
Iron ore	126,032	1,260,323	72,681	726,810
Sundries	38,890	11,666,755	43,912	13,173,308
Total other articles	295,598	$16,376,403	236,721	$17,605,089
Total	2,805,257	$145,608,202	2,730,181	$113,865,846

STATEMENT No. 13 — (*Continued*)

ARTICLES.	1866.		1867.	
	Tons.	Value.	Tons.	Value.
THE FOREST.				
Fur and peltry	....	....	....	....
Product of wood.				
Boards and scantling	1,069,259	$24,574,199	1,125,091	$20,251,664
Shingles	6,816	272,685	5,548	221,960
Timber	81,697	1,429,724	67,398	1,179,430
Staves	145,030	1,901,340	136,944	1,917,287
Wood	18,961	70,455	22,850	57,127
Ashes, pot and pearl	8,121	1,181,480	1,456	211,800
Total of the forest	1,329,884	$29,429,883	1,359,287	$23,839,268
AGRICULTURE.				
Product of animals.				
Pork	11	$2,030	147	$21,022
Beef	370	44,822	237	28,120
Bacon	5	1,650	17	5,160
Cheese	5,835	1,575,946	4,142	993,826
Butter	734	459,146	347	222,593
Lard, tallow and lard oil	54	20,054	618	228,536

Wool	292	291,741	180	162,462
Hides	8	3,520	62	19,719
Total product of animals	7,309	$2,398,909	5,750	$1,681,438
Vegetable food.				
Flour	61,641	$6,106,993	48,606	$4,249,580
Wheat	227,525	16,760,950	283,983	20,329,841
Rye	48,987	1,976,970	24,928	1,113,298
Corn	742,463	25,190,743	431,361	15,405,772
Corn meal	1,097	55,869	445	22,688
Barley	178,796	8,939,733	92,786	4,639,335
Barley malt	4,986	767,753	14,295	947,551
Oats	179,530	7,293,119	141,456	6,199,789
Bran and ship stuffs	15,067	452,015	6,511	195,306
Peas and beans	15,699	1,046,564	22,864	1,524,228
Apples	15,109	1,007,227	31,716	1,700,108
Potatoes	42,520	1,062,995	34,846	871,139
Dried fruit	68	27,180	65	23,720
Total vegetable food	1,533,488	$70,688,111	1,133,862	$57,222,355
All other agricultural paoducts.				
Cotton	12	$8,330	88	$52,590
Unmanufactured tobacco	168	67,133	224	89,640
Hemp	2	315	8	1,494
Clover and grass seed	277	77,364	266	74,368

STATEMENT No. 13—(*Continued*).

ARTICLES.	1866.		1867.	
	Tons.	Value.	Tons.	Value.
Flax seed	679	$81,504	3,473	$416,814
Hops	100	80,303	41	33,560
Total all other agricultural products	1,238	$314,949	4,100	$668,466
Total agricultural products	1,542,035	$73,401,969	1,143,712	$59,572,259
MANUFACTURES.				
Domestic spirits	526	$223,661	147	$81,400
Oil meal and cake	1,864	74,578	2,293	91,731
Leather	4,329	3,422,910	5,089	3,562,038
Furniture	225	89,820	220	88,077
Bar and pig iron	17	5,424	488	156,048
Pig iron	8,029	481,687	17,344	2,040,561
Bloom and bar lead	8,564	856,384	9,475	947,522
Castings and iron ware	252	40,511	444	71,153
Domestic woolens	112	268,800	204	467,935
Domestic cottons	260	597,885	238	523,050
Domestic salt	35,869	1,074,534	41,308	1,239,228
Foreign salt	133	6,625	....	....
Total manufactures	60,180	$7,142,810	77,250	$8,268,743
MERCHANDISE	6,372	$3,115,323	5,196	$3,279,786

OTHER ARTICLES.				
Live cattle, hogs and sheep	....	....	....	....
Stone, lime and clay	57,701	$2,308,068	85,333	$3,397,348
Gypsum	1,464	58,550	1,614	64,596
Mineral coal	....	....	....	....
Anthracite coal	14,212	113,697	13,774	110,194
Bituminous coal	110,746	886,773	124,686	997,491
Copper ore	1,829	914,675	1,991	995,525
Iron ore	137,673	1,376,781	154,061	1,540,604
Sundries	43,511	13,052,939	62,791	18,837,020
Total other articles	367,136	$18,711,483	444,250	$25,942,778
Total	3,305,607	$131,801,477	3,029,695	$120,902,834

STATEMENT No. 13 — (*Continued*).

ARTICLES.	1868.		1869.	
	Tons.	Value.	Tons.	Value.
THE FOREST.				
Fur and peltry	....	....	....	....
Product of wood.				
Boards and scantling	1,227,776	$22,099,620	1,280,996	$21,520,732
Shingles	6,457	258,259	4,339	154,892
Timber	48,353	846,182	63,033	1,260,669
Staves	154,120	2,157,694	83,246	1,165,448
Wood	19,396	32,209	20,323	43,407
Ashes, pot and pearl	3,251	472,800	982	142,760
Total of the forest	1,459,353	$25,866,764	1,453,419	$24,287,908
AGRICULTURE.				
Product of animals.				
Pork	6	$975	7	$1,336
Beef	304	28,500	....	....
Bacon	....	....	....	....
Cheese	3,840	1,152,172	3,317	1,061,488
Butter	174	138,440	133	77,024
Lard, tallow and oil	133	37,934	82	31,046

Wool	135	110,061	77	61,145
Hides	28	8,704	5	1,584
Total product of animals	4,870	$1,556,786	3,621	$1,233,623
Vegetable food.				
Flour	48,421	$5,102,191	59,682	$3,470,383
Wheat	342,431	24,769,172	561,568	28,452,826
Rye	22,512	1,350,788	10,531	451,367
Corn	457,707	18,635,254	197,371	7,471,924
Corn meal	475	25,300	400	19,425
Barley	81,283	7,281,714	85,864	5,581,244
Barley malt	8,387	1,096,410	5,598	618,200
Oats	179,914	8,883,260	86,041	3,818,059
Bran and shipstuffs	9,294	260,220	8,867	230,518
Peas and beans	10,241	938,749	3,573	267,998
Apples	25,417	1,387,216	31,970	1,333,774
Potatoes	36,354	1,030,031	31,330	522,480
Dried fruit	29	10,638	44	13,936
Total vegetable food	1,222,465	$70,770,943	1,082,839	$52,252,134
All other agricultural products.				
Cotton	119	$103,004	11	$6,384
Unmanufactured tobacco	113	45,444	70	35,125
Hemp	27	6,480	23	5,544
Clover and grass seed	363	72,570	....	....

STATEMENT No. 13—(*Continued*).

ARTICLES.	1868.		1869.	
	Tons.	Value.	Tons.	Value.
Flax seed	1,545	$154,468	321	$25,516
Hops	52	20,820	220	70,464
Total all other agricultural products	2,219	$402,786	645	$143,033
Total agricultural products	1,229,544	$72,730,515	1,087,105	$53,628,790
MANUFACTURES.				
Domestic spirits	39	$2,125	5	$1,500
Oil meal and cake	2,501	147,693	1,837	91,853
Leather	5,032	4,051,159	2,283	1,812,697
Furniture	220	103,526	150	67,008
Bar and pig lead	....	....	18	3,770
Pig iron	19,690	708,791	12,988	493,574
Bloom and bar iron	10,098	908,784	7,473	672,600
Castings and iron ware	157	18,965	225	26,923
Domestic woolens	161	401,625	270	674,750
Domestic cottons	263	525,700	179	356,700
Domestic salt	51,653	1,442,694	59,167	1,656,659
Foreign salt	....	....	28	809
Total manufactures	89,814	$8,311,062	84,623	$5,858,843
MERCHANDISE	5,058	$3,440,885	5,122	$3,445,110

OTHER ARTICLES.				
Live cattle, hogs and sheep	....	....	....	....
Stone, lime and clay	77,119	$3,084,820	85,298	$3,411,977
Gypsum	708	28,356	151	910
Mineral coal	....	....	....	....
Anthracite coal	20,280	101,403	22,482	157,377
Bituminous coal	108,261	870,089	131,084	1,048,664
Copper ore	4,082	195,615	....	....
Iron ore	183,857	1,875,144	155,279	1,552,793
Sundries	66,720	19,877,929	71,579	21,473,688
Total other articles	457,027	$25,997,356	465,873	$27,645,409
Total	3,240,806	$136,446,582	3,096,142	$114,866,060

STATEMENT No. 13—(*Continued*).

ARTICLES.	1870.		1871.	
	Tons.	Value.	Tons.	Value.
THE FOREST.				
Fur and peltry	....	....	....	....
Product of wood.				
Boards and scantling	1,280,010	$16,128,153	1,220,082	$15,691,830
Shingles	3,610	129,984	4,604	184,055
Timber	45,816	1,708,025	32,104	798,323
Staves	114,975	1,625,129	72,330	1,157,283
Wood	19,160	45,846	....	....
Ashes, pot and pearl	1,946	122,081	281	40,760
Total of the forest	1,465,517	$19,759,217	1,329,401	$17,872,251
AGRICULTURE.				
Product of animals.				
Pork	594	$947	129	$11,735
Beef	175	14,300	224	14,000
Bacon	....	....	....	....
Cheese	4,359	958,991	2,635	579,887
Butter	139	97,090	56	22,640
Lard, tallow and lard oil	4	1,216	53	11,803

Wool	135	121,938	36	39,590
Hides	19	5,920	20	6,000
Total product of animals	5,426	$1,200,402	3,153	$685,655
Vegetable food.				
Flour	48,964	$2,552,476	31,131	$1,879,423
Wheat	256,720	24,229,115	647,319	32,803,517
Rye	17,866	638,130	29,922	1,004,561
Corn	137,322	4,610,148	563,583	14,693,313
Corn meal	569	44,355	529	22,028
Barley	110,837	5,120,254	88,253	3,677,238
Barley malt	14,856	1,390,016	13,194	882,159
Oats	101,240	3,859,831	109,338	3,416,723
Bran and ship stuffs	7,104	184,706	3,892	109,002
Peas and beans	6,602	385,135	3,286	191,670
Apples	47,946	1,163,145	36,882	1,716,152
Potatoes	23,932	717,957	40,165	803,294
Dried fruit	12	3,776	52	20,820
Total vegetable food	1,043,970	$44,899,044	1,567,546	$61,219,900
All other agricultural products.				
Cotton	47	$252,053	11	$37,814
Unmanufactured tobacco	63	31,450	56	27,775
Hemp	....	....	....	....
Clover and grass seed	1	1,475	48	4,795

STATEMENT No. 13 — (*Continued*).

ARTICLES.	1870.		1871.	
	Tons.	Value.	Tons.	Value.
Flax seed	46	$3,234	899	$62,909
Hops	33	2,044	41	37,170
Total all-other agricultural products	190	$297,256	1,055	$170,463
Total agricultural products	1,049,586	$46,396,702	1,570,754	$62,076,018
MANUFACTURES.				
Domestic spirits	20	$5,250	14	$3,325
Oil meal and cake	1,567	78,348	1,817	90,835
Leather	1,425	1,139,724	917	723,835
Furniture	153	60,981	165	70,820
Bar and pig lead	7	1,330	270	54,050
Pig iron	16,773	503,216	14,024	476,810
Bloom and bar iron	5,509	440,672	4,535	408,168
Castings and iron ware	391	23,447	258	33,592
Domestic woolens	118	420,500	34	80,880
Domestic cottons	122	146,520	568	680,040
Domestic salt	65,081	1,822,268	72,270	2,023,535
Foreign salt	....	....	39	1,266
Total manufactures	91,166	$4,642,256	94,911	$4,647,161
MERCHANDISE	12,118	$5,605,311	7,603	$3,831,785

OTHER ARTICLES.				
Live cattle, hogs and sheep	....	....	....	....
Stone, lime and clay	91,111	$3,106,800	83,305	$3,332,212
Gypsum	9	56	273	1,637
Anthracite coal	19,798	118,781	39,207	274,449
Bituminous coal	143,445	1,147,559	54,800	438,401
Copper ore	....	....	....	....
Iron ore	208,020	2,080,194	208,388	2,113,873
Sundries	75,532	22,660,134	87,581	26,274,430
Total other articles	537,915	$29,113,534	473,554	$32,535,002
Total	3,156,302	$105,517,020	3,476,223	$106,839,570

STATEMENT No. 13 — (*Continued*).

ARTICLES.	1872.		1873.	
	Tons.	Value.	Tons.	Value.
THE FOREST.				
Fur and peltry	....	....	....	....
Product of wood.				
Boards and scantling	1,315,569	$20,522,240	1,165,655	$12,747,530
Shingles	1,925	77,045	1,922	77,099
Timber	29,790	491,542	28,189	465,120
Staves	100,240	2,004,804	104,030	2,070,600
Wood	20,313	36,275	8,675	31,212
Ashes, pot and pearl	28	4,000	....	240
Total of the forest	1,467,865	$23,135,906	1,308,471	$15,391,801
AGRICULTURE.				
Product of animals.				
Pork	6	$580	7	$602
Beef	176	12,100	....	....
Bacon	....	....	....	....
Cheese	1,500	329,934	1,109	221,810
Butter	31	16,094	10	5,740
Lard, tallow and lard oil	88	15,750	63	10,080

Wool	4	4,800	3	3,024
Hides	....	....	....	....
Total product of animals	1,805	$379,258	1,192	$241,256
Vegetable food.				
Flour	15,707	$1,091,770	10,803	$725,202
Wheat	341,210	18,761,556	672,024	35,756,064
Rye	13,340	428,852	26,185	748,138
Corn	837,601	19,743,471	520,765	11,154,305
Corn meal	22	680	....	....
Barley	107,479	4,926,124	53,882	3,322,755
Barley malt	19,316	1,318,853	14,375	1,384,358
Oats	90,955	2,728,683	54,857	1,571,138
Bran and ship stuffs	4,391	87,820	4,917	98,343
Peas and beans	3,147	209,834	3,918	261,224
Apples	30,737	819,652	26,629	1,254,560
Potatoes	24,348	1,205,473	31,770	847,209
Dried fruit	92	35,098	46	15,657
Total vegetable food	1,488,345	$51,362,866	1,420,171	$57,138,953
All other agricultural products.				
Cotton	....	....	7	$3,475
Unmanufactured tobacco	....	....	29	25,875
Hemp	31	$6,430	25	5,390
Clover and grass seed	....	....	1	153

STATEMENT No. 13—(*Continued*).

ARTICLES.	1872.		1873.	
	Tons.	Value.	Tons.	Value.
Flax seed	58	$3,450	40	$2,376
Hops	9	7,240	4	2,840
Total all other agricultural products	98	$17,120	106	$40,109
Total agricultural products	1,490,248	$1,759,244	1,421,469	$57,420,318
MANUFACTURES.				
Domestic spirits	7	$1,926	50	$15,500
Oil meal and cake	1,919	153,540	1,964	98,193
Leathér	398	238,050	160	89,656
Furniture	147	32,316	115	25,289
Bar and pig lead	....	....	....	....
Pig iron	14,912	596,522	6,934	356,596
Bloom and bar iron	10,368	829,448	790	79,020
Castings and iron ware	265	35,984	93	15,112
Domestic woolens	9	25,375	- 19	42,780
Domestic cottons	78	115,800	21	30,975
Domestic salt	52,833	1,056,640	36,275	581,037
Foreign salt	....	....	....	....
Total manufactures	80,936	$3,086,101	46,421	$1,334,158
MERCHANDISE	7,672	$4,591,693	12,091	$7,088,378

OTHER ARTICLES.				
Live cattle, hogs and sheep	....	....	....	....
Stone, lime and clay	111,296	$2,225,826	103,530	$2,070,592
Gypsum	416	4,162	403	4,027
Anthracite coal	39,092	234,552	29,559	177,355
Bituminous coal	81,474	651,808	90,591	724,718
Copper ore	....	....	....	....
Iron ore	307,336	1,594,658	327,302	2,618,411
Sundries	61,609	19,802,412	36,812	11,039,739
Total other articles	601,223	$24,513,418	588,197	$16,634,842
Total	3,647,944	$107,086,362	8,376,649	$97,869,497

STATEMENT No. 13—(*Continued*).

ARTICLES.	1874.		1875.		1876.	
	Tons.	Value.	Tons.	Value.	Tons.	Value.
THE FOREST.						
Fur and peltry	....	....	....	....	....	....
Product of wood.						
Boards and scantling	944,372	$14,165,581	686,217	$9,067,906	838,695	$8,542,449
Shingles	3,333	119,987	2,535	91,516	1,353	37,871
Timber	50,733	1,141,491	12,952	259,023	12,118	212,065
Staves	81,400	1,627,997	33,764	675,275	25,905	518,122
Wood	12,639	31,598	8,322	28,548	12,654	27,114
Ashes, pot and pearl	204	46,683	45	1,260	....	....
Total of the forest	1,092,681	$17,133,337	743,835	$10,123,528	890,725	$9,337,621
AGRICULTURE.						
Product of animals.						
Pork	19	$2,204	....	....	....	....
Beef	....	....	....	....	....	....
Bacon	....	....	....	....	....	....
Cheese	1,455	436,620	1,179	$330,022	343	$95,928
Butter	16	10,304	16	7,779	65	36,260
Lard, tallow and lard oil	8	2,082	6	1,785	60	16,785

Wool	21	19,776	4	3,120	....	....
Hides	....	....	29	2,850	....	....
Total product of animals	1,519	$470,986	1,234	$345,553	468	148,973
Vegetable food.						
Flour	17,760	$1,151,780	11,203	$765,734	3,914	253,708
Wheat	708,942	29,302,970	675,686	27,883,845	353,769	17,510,156
Rye	10,061	373,060	6,457	207,557	19,095	579,762
Corn	488,918	15,889,823	235,646	6,564,456	318,390	6,822,924
Corn meal	23	864	108	3,700	....	....
Barley	70,068	4,087,342	91,271	4,383,564	90,269	4,137,335
Barley malt	9,130	807,344	12,227	933,830	13,134	918,619
Oats	58,279	2,258,293	50,987	1,593,352	50,369	1,416,623
Bran and ship stuffs	2,047	40,923	562	11,234	556	11,111
Peas and beans	7,110	474,000	4,484	261,601	3,867	193,362
Apples	37,346	996,884	27,414	1,037,660	22,998	396,114
Potatoes	59,428	1,386,650	56,646	755,281	29,407	1,178,299
Dried fruit	....	....	39	12,320	....	....
Total vegetable food	1,469,112	$56,769,933	1,172,550	$44,414,134	905,768	$33,418,013
All other agricultural products.						
Cotton	7	$1,995	124	$29,748	63	14,620
Unmanufactured tobacco	42	31,540	43	17,260	38	28,842
Hemp	....	....	2	564	....	....
Clover and grass seed	2	396	304	54,648	....	....

STATEMENT No. 13.—(*Continued*).

ARTICLES.	1874.		1875.		1876.	
	Tons.	Value.	Tons.	Value.	Tons.	Value.
Flax seed	167	$11,679	1,216	$243,100	146	$8,769
Hops	23	18,080	22	5,316	....	....
Total all other ag'l products	241	$63,690	1,711	$350,636	247	$52,231
Total agricultural products	1,470,872	$57,304,609	1,175,495	$45,110,323	906,483	$33,619,217
MANUFACTURES.						
Domestic spirits	....	....	....	....	1	164
Oil meal and cake	2,267	$90,960	1,833	$91,610	2,862	143,090
Leather	181	97,389	129	66,548	57	28,600
Furniture	50	10,648	462	184,720	13	5,340
Bar and pig lead	698	111,600	79	14,157	....	....
Pig iron	12,978	389,336	24,602	984,052	26,699	533,978
Bloom and bar iron	11,192	1,119,370	6,067	607,090	5,588	210,882
Castings and iron ware	219	30,750	391	42,266	4	728
Domestic woolens	66	165,250	31	78,500	1	1,080
Domestic cottons	28	22,160	224	128,460	....	....
Domestic salt	21,747	304,870	36,223	507,255	8,799	274,527
Foreign salt	....	....	248	3,968	244	3,904
Total manufactures	49,426	$2,342,084	70,209	$2,708 626	44,268	$1,202,293
MERCHANDISE	12,905	$6,302,554	8,341	$6,531,282	4,364	$2,280,788

OTHER ARTICLES.						
Live cattle, hogs and sheep...	....	....	....	....	....	....
Stone, lime and clay.........	78,159	$1,563,179	66,041	$1,320,817	69,776	$1,395,514
Gypsum	80	479	817	3,354	251	1,504
Anthracite coal.............	36,781	220,684	52,501	315,009	58,080	232,247
Bituminous coal	129,603	1,036,826	125,356	1,002,854	102,925	617,544
Copper ore	....	....	123	66,420	....	....
Iron ore	187,792	2,629,069	233,288	3,266,019	161,323	1,935,874
Sundries	64,813	19,443,705	63,331	18,999,286	187,987	23,271,276
Total other articles........	497,228	$24,893,942	541,457	$24,973,759	580,342	$27,453,959
Total..................	3,123,112	$107,976,476	2,539,337	$89,447,518	2,426,182	$73,893,878

YEARS.	Going from tide-water.	Coal ascending Erie and Champlain canals from tide-water.	MERCHANDISE.			
			Ascending Erie and Champlain canals from tide water.	LEFT ON THE SEVERAL CANALS.		
				Erie.	Champlain.	Oswego.
1826	35,435	....	21,457	....	....	....
1827	....	....	....	....	....	....
1828	56,797	....	42,278	....	....	....
1829	52,621	....	47,368	....	....	....
1830	70,154	....	63,927	....	....	....
1831	86,945	....	77,930	....	....	....
1832	....	....	....	....	....	....
1833	119,468	....	98,848	....	....	....
1834	114,608	1,102	86,814	....	....	....
1835	128,910	5,973	105,865	75,464	9,033	10,548
1836	133,796	5,436	117,889	79,275	11,359	14,511
1837	122,130	6,460	186,814	58,316	9,394	7,194
1838	142,802	6,472	17,949	81,832	12,033	8,995
1839	142,035	7,504	124,575	80,026	14,468	11,259
1840	120,586	6,054	105,960	68,499	12,926	7,611
1841	162,715	9,383	132,841	77,372	15,935	12,718
1842	123,294	7,714	94,213	59,925	10,395	9,245
1843	143,595	9,738	113,686	74,025	13,152	11,607
1844	176,727	14,039	135,616	82,784	14,644	20,322
1845	195,000	18,809	144,742	84,356	17,241	20,189
1846	213,295	17,599	163,125	90,026	19,444	22,547
1847	288,161	32,359	215,185	125,720	22,498	20,879

1848	329,557	39,592	242,661	144,744	32,893	35,851
1849	315,550	37,531	236,935	142,447	36,060	32,324
1850	418,370	46,732	253,545	151,782	31,778	48,865
1851	467,961	67,204	349,230	212,204	31,675	81,569
1852	521,527	69,923	396,087	251,490	30,284	82,793
1853	584,141	95,333	426,401	257,432	32,825	106,136
1854	531,831	92,806	371,912	256,142	22,792	74,192
1855	504,696	95,746	342,962	221,200	19,560	82,892
1856	573,733	142,692	347,925	223,184	23,714	80,768
1857	340,170	116,211	188,160	110,439	21,888	47,529
1858	287,073	144,276	149,686	87,993	19,379	32,203
1859	317,459	142,495	169,664	101,460	22,344	32,744
1860	373,735	154,928	205,537	120,025	27,208	43,312
1861	340,736	170,795	117,601	68,852	19,192	20,268
1862	417,623	173,381	146,226	95,686	18,525	22,052
1863	456,800	232,807	155,394	100,679	14,637	30,926
1864	493,913	268,772	125,841	77,985	13,854	27,335
1865	458,684	249,414	125,279	90,866	20,449	14,331
1866	626,974	367,296	155,669	102,263	21,048	23,834
1867	792,573	463,932	185,641	113,772	21,515	41,100
1868	1,067,020	600,677	240,203	141,976	26,577	64,435
1869	722,201	434,624	235,169	139,484	21,298	65,986
1870	940,429	567,508	248,345	144,053	30,182	69,195
1871	801,538	392,158	266,660	170,544	32,670	58,077
1872	926,228	582,529	272,138	209,879	25,620	32,860
1873	795,117	591,677	148,033	100,115	25,288	18,361
1874	753,981	530,814	114,598	64,669	26,802	21,075
1875	701,253	509,567	94,397	46,365	35,377	11,007
1876	745,797	471,415	48,542	21,208	18,465	4,247

YEARS.	MERCHANDISE.							
	LEFT ON THE SEVERAL CANALS.							
	Cayuga and Seneca.	Chemung.	Crooked Lake.	Chenango.	Genesee Valley.	Black River.	Oneida Lake.	Baldwinsville.
1826	......	......	......	......	......	......	......	.....
1827	......	......	......	......	......	......	......	.....
1828	......	......	......	......	......	......	......	.....
1829	......	......	......	......	......	......	......	.....
1830	......	......	......	......	......	......	......	.....
1831	......	......	......	......	......	......	......	.....
1832	......	......	......	......	......	......	......	.....
1833	......	......	......	......	......	......	......	.....
1834	......	......	......	......	......	......	......	.....
1835	7,296	1,799	1,725	......	......	......	......	.....
1836	7,686	2,895	2,163	......	......	......	......	.....
1837	5,981	2,318	1,879	1,402	......	......	......	.....
1838	7,555	2,256	2,619	2,459	......	......	......	.....
1839	7,737	2,167	4,362	4,556	......	......	......	.....
1840	7,386	1,556	3,057	3,709	1,216	......	......	.....
1841	9,529	2,222	2,353	5,424	3,258	......	......	.....
1842	6,760	1,210	1,137	3,082	2,459	......	......	.....
1843	6,310	1,347	1,496	2,883	2,856	......	......	.....
1844	7,475	1,496	1,794	3,687	3,404	......	......	.....
1845	7,822	4,385	2,027	4,147	4,585	......	......	.....
1846	9,202	4,177	2,151	4,585	4,853	......	......	.....
1847	11,504	5,734	2,394	5,598	5,867	......	......	.....

1848	5,363	4,539	2,246	11,172	5,849	......	......	.....
1849	5,588	5,986	2,718	5,281	5,831	......	......	.....
1850	2,964	1,723	2,339	2,049	10,248	......	......	.....
1851	5,223	2,387	4,616	3,248	6,588	1,080	631	.....
1852	8,479	6,080	3,951	3,673	7,516	1,559	662	.....
1853	7,730	5,673	3,659	3,884	7,036	1,020	1,007	.....
1854	3,251	2,580	1,034	5,572	4,600	1,003	491	146
1855	3,665	2,525	1,270	4,805	4,258	2,755	501	131
1856	4,362	2,545	1,103	4,588	4,772	2,427	451	91
1857	2,668	1,070	531	2,404	926	550	155	.....
1858	1,926	1,653	727	2,427	2,287	892	399	.....
1859	3,851	2,363	585	3,994	1,220	942	161	.....
1860	3,696	3,101	729	5,186	976	1,144	160	.....
1861	2,954	1,332	339	3,314	508	697	145	.....
1862	3,373	1,264	549	2,931	776	1,005	75	.....
1863	1,600	1,606	468	3,768	592	1,093	25	.....
1864	1,780	1,351	164	[illegible],701	242	429	......	.....
1865	559	1,603	157	2,468	299	657	......	.....
1866	855	1,869	365	4,043	572	820	......	.....
1867	837	1,894	237	4,168	293	825	......	.....
1868	1,088	1,393	173	2,790	616	1,155	......	.....
1869	802	1,098	200	4,929	817	555	......	.....
1870	499	424	6	2,254	681	1,051	......	.....
1871	509	768	369	950	1,682	1,091	......	.....
1872	516	1,421	141	397	934	370	......	.....
1873	1,803	652	239	253	791	531	......	.....
1874	321	328	206	120	448	629	......	.....
1875	246	250	......	71	302	779	......	.....
1876	2,964	647	......	92	108	811	......	.....

(No. 15.)

STATEMENT of tons from other States, by way of Buffalo, Black Rock and Tonawanda, Oswego and Whitehall, for a series of years.

YEARS.	PRODUCTS OF THE FOREST.			AGRICULTURE.		
	Buffalo, Black Rock and Tonawanda.	Oswego.	Whitehall.	Buffalo, Black Rock and Tonawanda.	Oswego.	Whitehall.
1836	3,755	1,645	49,951	31,761	16,239	3,977
1837	7,104	533	37,954	34,196	13,350	2,209
1838	4,615	4,616	29,882	62,568	10,404	3,460
1839	22,835	5,009	48,098	74,864	16,505	3,918
1840	18,133	3,108	43,861	117,813	16,787	3,574
1841	35,126	10,272	43,896	154,393	19,044	2,921
1842	26,229	6,840	22,783	160,338	25,570	3,376
1843	31,211	5,564	22,131	185,248	29,407	4,588
1844	52,061	16,027	21,652	184,988	51,167	6,457
1845	72,674	18,561	18,179	153,929	52,485	7,572
1846	61,957	25,053	24,942	325,262	84,849	6,800
1847	85,539	31,784	32,042	562,239	120,899	8,348
1848	102,883	39,550	21,253	372,671	116,807	3,775
1849	134,941	79,318	43,550	382,285	153,253	11,857
1850	205,622	122,440	102,013	431,624	150,186	13,491
1851	185,195	143,674	66,524	493,305	194,589	8,176
1852	195,879	141,013	81,432	546,141	232,676	23,168
1853	221,248	222,832	110,337	464,680	262,975	19,166
1854	203,080	174,597	104,034	524,801	152,894	4,404
1855	194,743	154,472	85,762	532,949	218,891	6,940

1856	169,275	166,522	69,339	511,723	344,424	15,580
1857	223,774	202,830	59,177	377,705	170,669	23,940
1858	186,045	205,094	62,803	559,213	274,716	25,830
1859	297,015	253,300	73,788	277,143	143,754	46,605
1860	333,101	314,604	56,498	797,188	379,813	41,637
1861	195,108	130,122	26,501	1,335,183	426,749	18,937
1862	363,728	199,618	34,785	1,530,638	387,803	33,714
1863	324,945	212,165	88,839	1,346,256	330,224	104,544
1864	411,411	243,439	142,533	1,001,826	188,566	47,660
1865	302,427	301,510	146,695	1,006,340	225,002	49,223
1866	377,958	328,427	206,535	1,158,956	266,279	10,702
1867	435,176	379,550	196,820	930,283	247,181	6,169
1868	496,097	394,974	182,145	929,064	254,752	8,044
1869	455,361	442,577	194,516	778,812	252,158	5,385
1870	508,464	454,335	227,795	787,027	220,263	10,343
1871	423,385	433,810	204,944	1,304,388	279,047	3,338
1872	453,774	431,704	254,885	1,293,717	169,818	2,676
1873	478,371	331,008	20,512	1,432,181	131,668	3,196
1874	440,765	278,844	182,922	1,157,668	243,325	5,475
1875	386,090	225,699	125,265	698,713	12,183	8,665
1876	319,019	174,976	120,407	778,409	96,670	5,020

NOTE — Office at Black Rock abolished in 1857.

STATEMENT No. 15—(*Continued*).

YEARS.	MANUFACTURES.			OTHER ARTICLES.		
	Buffalo, Black Rock and Tonawanda.	Rome and Oswego.	Whitehall.	Buffalo, Black Rock and Tonawanda.	Rome and Oswego.	Whitehall.
1836	641	13	1,330	116	49	2,595
1837	454	17	1,077	475	126	2,306
1838	489	11	664	515	15	2,224
1839	801	....	894	438	419	3,398
1840	1,200	67	621	995	75	2,844
1841	3,696	6	1,105	1,535	104	2,987
1842	2,623	27	3,215	1,778	73	2,141
1843	2,026	51	2,506	2,751	118	1,901
1844	722	131	3,210	2,777	152	2,625
1845	2,414	151	3,838	6,118	211	3,800
1846	2,715	211	5,481	6,578	205	5,530
1847	5,431	77	3,807	6,757	114	6,280
1848	4,945	615	1,370	11,781	902	8,131
1849	5,865	291	1,050	11,995	721	9,014
1850	6,015	1,833	1,334	12,993	718	7,195
1851	13,271	1,186	828	13,711	1,089	5,163
1852	13,282	6,360	197	13,572	1,054	3,144
1853	15,407	9,750	25	17,158	1,640	81
1854	5,980	4,660	163	23,019	2,360	247
1855	7,106	2,433	704	17,910	6,859	9,522
1856	2,680	171	1,185	15,096	2,659	5,150
1857	7,006	3,072	2,522	22,431	2,511	6,563
1858	18,483	602	835	22,545	2,123	3,601

1859	8,544	54	....	49,315	7,419	2,524
1860	15,987	437	1,135	49,190	6,655	4,880
1861	17,800	448	....	49,802	3,213	7,655
1862	13,454	716	....	43,849	5,031	4,102
1863	16,714	582	....	39,167	9,199	4,733
1864	13,298	113	129	43,273	5,210	2,210
1865	7,895	9	233	49,114	11,859	6,180
1866	4,795	5	70	77,563	21,733	3,583
1867	3,821	3	22	103,215	29,636	3,623
1868	3,801	553	25	111,602	24,379	3,260
1869	2,002	152	1,619	124,427	13,228	2,364
1870	3,794	....	224	87,492	12,572	6,255
1871	2,235	....	1,691	109,403	6,149	2,076
1872	....	....	138	98,107	8,902	3,359
1873	....	....	....	94,796	56,720	4,176
1874	23	....	....	76,948	9,031	5,125
1875	864	....	....	33,483	9,553	1,185
1876	151	....	....	22,959	10,584	2,766

NOTE.—Office at Black Rock abolished in 1857.

(No. 16)

THE TONS of the total movement of articles on all the canals, from 1837 to 1876, *as follows:*

YEARS.	Products of the forest.	Agriculture.	Manufactures.	Merchandise.	Other articles.	Total.
1837	618,741	208,043	81,735	94,777	168,000	1,171,296
1838	665,089	255,227	101,526	124,290	186,879	1,333,011
1839	667,581	266,052	111,968	132,286	247,826	1,435,713
1840, Genesee Valley canal opened	587,647	393,780	100,367	112,021	223,231	1,417,046
1841	645,548	391,905	127,896	141,054	215,258	1,521,661
1842	504,597	401,276	98,968	101,446	130,644	1,236,931
1843	687,184	455,797	124,277	119,209	126,972	1,513,439
1844	864,373	509,387	144,245	141,930	156,651	1,819,586
1845	881,774	555,169	160,638	151,450	228,543	1,977,565
1846	916,976	814,158	149,006	169,799	218,823	2,268,262
1847	1,087,814	1,092,946	175,448	224,890	287,812	2,869,810
1848	1,086,880	913,824	202,784	261,458	331,287	2,796,230
1849	1,104,940	1,020,259	203,990	255,455	310,088	2,894,732
1850	1,261,191	965,619	200,218	269,370	379,419	3,076,617
1851	1,393,698	1,125,264	222,529	365,404	475,838	3,582,733
1852	1,586,080	1,213,357	207,955	420,295	435,754	3,863,441
1853	1,821,525	1,150,923	230,036	457,327	587,041	4,247,852
1854	1,768,745	992,839	258,021	406,022	740,235	4,165,862
1855	1,534,934	1,047,344	281,873	374,402	784,064	4,022,617
1856	1,478,674	1,192,673	284,901	370,758	789,076	4,116,082
1857	1,364,002	767,370	232,803	222,954	756,932	3,344,061
1858	1,232,968	1,279,891	29 ,903	188,441	667,989	3,665,192

1859	1,542·035	816,784	299·421	211,182	912,262	3,781,684
1860	1,509,977	1,682,754	268,759	250,360	838,364	4,650,214
1861	1,052,392	2,144,373	280,256	135,096	895,518	4,507,635
1862	1,569,674	2,494,036	364,887	167,927	1,002,271	5,598,785
1863	1,628,688	2,236,075	319,432	172,278	1,201,219	5,557,692
1864	1,478,921	1,572,836	282,354	143,984	1,374,846	4,852,941
1865	1,467,315	1,696,091	281,832	144,968	1,129,448	4,729,654
1866	1,769,994	1,786,060	302,241	179,878	1,737,047	5,775,220
1867	1,744,252	1,438,517	320,844	219,880	1,964,832	5,688,325
1868	1,958,309	1,442,147	373,262	324,064	2,344,443	6,442,225
1869	1,855,930	1,314,071	345,239	268,970	2,077,870	5,862,080
1870	1,916,511	1,309,153	342,497	271,856	2,333,752	6,173,769
1871	1,941,297	1,863,868	336,288	288,428	2,038,007	6,467,888
1872	1,950,798	1,683,962	325,564	298,758	2,414,288	6,673,370
1873	1,582,072	1,750,418	267,820	172,990	2,591.482	6,364,782
1874	1,482,753	1,772,583	246,697	132,181	2,170,374	5,804,588
1875	1,250,546	1,311,613	275,731	110,141	1,911,827	4,859,858
1876	1,175,313	1,067,497	180,201	64,943	1,684,175	4,172,129
Total for 40 years	50,721,927	46,396,032	9,411,399	8,673,922	39,180,187	154,383,467
Yearly average	1,268,048	1,159,901	235,285	216,848	979,504	3,859,586
Per cent of each class	32.86	30.05	06.09	05.62	25.38	100.00
Average from 1837 to 1841 — five years	636,921	303,001	104,698	120,886	210,239	1,375,745
Average from 1842 to 1846 — five years	770,581	547,175	135,427	136,767	172,287	1,762,237

STATEMENT No. 16—(*Continued*).

YEARS.	Products of the forest.	Agriculture.	Manufactures.	Merchandise.	Other articles.	Total.
Average from 1847 to 1851 — five years	1,187,045	1,023,582	201,193	275,315	356,889	3,044,024
Average from 1852 to 1856 — five years	1,637,992	1,119,427	252,557	405,961	667,234	4,083,171
Average from 1857 to 1861 — five years	1,340,275	1,338,234	275,428	201,607	834,213	3,989,757
Average from 1862 to 1866 — five years	1,582,918	1,957,019	310,149	161,807	1,288,966	5,302,858
Average from 1867 to 1871 — five years	1,883,260	1,477,551	343,626	274,639	2,151,781	6,126,857
Average from 1872 to 1876 — five years	1,488,296	1,517,215	259,202	155,803	2,154,429	5,574,945

(No. 17.)

THE VALUE of the total movement of articles on all the canals, from 1837 *to* 1876.

YEARS.	Products of the forest.	Agriculture.	Manufactures.
1837	$6,146,716	$16,201,331	$6,390,485
1838	6,338,063	19,390,714	5,915,856
1839	7,762,553	17,056,911	5,989,576
1840	4,609,035	18,644,481	4,719,054
1841	11,841,103	21,901,713	5,422,615
1842	5,957,219	16,987,843	4,435,289
1843	6,653,080	20,588,118	4,925,545
1844	7,422,737	23,379,683	6,151,806
1845	6,472,237	29,479,488	6,994,932
1846	6,422,409	35,820,586	7,015,311
1847	7,546,053	55,757,166	8,072,059
1848	7,219,350	42,850,086	7,433,957
1849	8,671,057	46,408,092	7,183,930
1850	15,117,661	46,152,958	7,933,108
1851	12,549,754	43,277,458	8,155,575
1852	11,526,436	49,437,555	6,294,120
1853	14,001,506	57,482,818	8,091,100
1854	14,384,785	51,980,864	9,796,420
1855	10,545,615	58,222,314	10,467,559
1856	10,211,383	51,030,453	10,308,419
1857	9,827,410	30,955,369	9,330,067
1858	8,963,443	50,142,318	9,352,955

STATEMENT No. 17—(*Continued*).

YEARS.	Products of the forest.	Agriculture.	Manufactures.
1859	$10,798,769	$34,044,601	$[illegible],757,059
1860	10,654,710	55,838,977	8,113,177
1861	6,462,614	57,861,720	6,718,273
1862	11,305,954	84,239,370	12,314,651
1863	13,421,909	101,090,511	13,044,051
1864	22,589,060	116,051,564	22,582,718
1865	21,011,122	83,670,467	18,095,266
1866	28,754,821	86,610,934	18,389,992
1867	23,977,470	81,616,663	16,877,334
1868	24,039,591	76,383,656	17,298,574
1869	21,930,655	55,528,825	13,595,892
1870	22,266,184	49,231,912	10,777,897
1871	27,309,303	68,130,282	10,881,540
1872	35,599,734	49,541,259	7,659,547
1873	18,651,838	60,194,909	5,979,656
1874	17,840,356	64,344,898	7,094,531
1875	12,478,669	50,540,911	6,311,137
1876	11,132,966	32,439,857	3,375,119
Total for 40 years	$565,415,340	$2,010,509,592	$368,246,152
Yearly average	$14,135,383	$50,262,740	$9,206,154

Per cent of each class	08.40	29.86	05.47
Average from 1837 to 1841 — five years	$7,339,494	$18,639,030	$5,687,517
Average from 1842 to 1846 — five years	$6,585,536	$25,251,135	$5,904,577
Average from 1847 to 1851 — five years	$10,220,777	$46,889,152	$7,755,726
Average from 1852 to 1856 — five years	$12,133,945	$53,630,800	$8,991,524
Average from 1857 to 1861 — five years	$9,341,389	$45,768,597	$8,454,306
Average from 1862 to 1866 — five years	$19,416,573	$94,332,569	$16,885,336
Average from 1867 to 1871 — five years	$24,904,641	$66,178,268	$13,886,247
Average from 1872 to 1876 — five years	$19,140,712	$51,412,367	$6,083,998

STATEMENT No. 17 — (*Continued*).

YEARS.	Merchandise.	Other articles.	Total.
1837	$23,935,990	$3,134,766	$55,809,288
1838	31,594,692	2,507,234	65,746,559
1839	39,493,764	3,096,960	73,399,764
1840	35,636,943	2,794,379	66,403,892
1841	50,134,320	6,903,178	92,202,922
1842	30,042,153	2,594,104	60,016,608
1843	40,651,798	3,458,368	76,276,909
1844	49,224,099	4,742,867	90,921,152
1845	52,542,336	5,140,866	100,629,859
1846	62,004,488	4,349,315	115,612,109
1847	74,753,638	5,434,502	151,563,428
1848	76,945,463	5,637,301	140,086,157
1849	77,094,282	5,374,924	144,732,285
1850	81,135,199	6,059,003	156,397,929
1851	88,531,320	7,367,694	159,881,801
1852	122,624,170	6,721,236	196,603,517
1853	118,317,856	9,286,293	207,179,570
1854	123,167,863	10,954,380	210,284,312
1855	113,572,523	11,582,136	204,300,147
1856	135,691,816	11,084,991	218,327,062
1857	74,633,905	12,250,267	136,997,018
1858	61,236,319	8,873,809	138,568,844
1859	65,072,972	13,487,357	132,160,758
1860	84,252,425	11,989,909	170,849,198

1861	49,707,729	9,365,557	130,115,893
1862	83,640,903	11,733,453	203,334,331
1863	91,417,513	21,072,477	240,046,461
1864	80,391,550	32,785,747	274,400,639
1865	102,627,877	30,832,372	256,237,104
1866	100,169,211	37,038,718	270,963,676
1867	108,545,569	42,939,676	278,956,712
1868	131,786,764	55,793,344	305,301,929
1869	103,464,505	54,761,407	249,281,284
1870	94,852,914	54,707,269	231,836,176
1871	78,898,185	53,548,381	238,767,691
1872	93,997,415	34,115,366	220,913,321
1873	76,173,336	30,715,761	191,715,500
1874	64,477,540	42,916,997	196,674,322
1875	40,885,448	34,792,410	145,008,575
1876	31,069,375	35,073,062	113,090,379
Total for 40 years	$3,044,396,168	$743,017,836	$6,731,585,088
Yearly average	$76,109,904	$18,575,446	$168,289,627
Per cent of each class	45.23	11.04	100.00
Average from 1837 to 1841 — five years	$36,159,142	$2,887,303	$70,712,486
Average from 1842 to 1846 — five years	$46,892,975	$4,057,104	$98,691,327
Average from 1847 to 1851 — five years	$79,691,980	$5,974,685	$150,532,320

STATEMENT No. 17 — (*Continued*).

YEARS.	Merchandise.	Other articles.	Total.
Average from 1852 to 1856 — five years	$122,674,846	$9,925,807	$207,357,922
Average from 1857 to 1861 — five years	$66,980,670	$11,193,380	$141,738,342
Average from 1862 to 1866 — five years	$91,649,411	$26,692,553	$248,976,442
Average from 1867 to 1871 — five years	$103,509,587	$52,350,015	$238,414,590
Average from 1872 to 1876 -- five years	$61,320,623	$35,522,719	$173,480,419

(No. 18.)

THE TOLLS paid on the total movement of articles and upon boats and passengers annually, from 1837 *to* 1876, *both years inclusive, are as follows:*

YEARS.	Boats and passengers.	Products of the forest.	Agriculture.	Manufactures.
1837	$195,508	$211,118	$370,041	$75,507
1838	210,457	229,988	468,495	74,941
1839	181,323	253,710	479,534	81,251
1840, Genesee Valley canal opened	185,022	197,904	808,623	75,765
1841	179,819	313,444	785,943	95,595
1842	156,515	211,979	805,376	70,611
1843	156,004	290,755	922,710	93,231
1844	191,878	363,547	1,009,773	123,061
1845	195,426	313,613	1,088,671	111,236
1846	223,669	354,888	1,439,793	81,288
1847	278,022	358,235	2,031,748	94,648
1848	240,341	367,494	1,602,995	112,355
1849	234,311	408,566	1,608,441	101,638
1850	240,493	512,066	1,492,639	99,116
1851	258,735	493,064	1,410,129	126,051
1852	251,859	455,123	1,491,840	115,334
1853	249,021	571,289	1,394,070	124,321
1854	226,128	519,466	1,080,409	123,425
1855	194,657	489,666	1,152,829	133,935
1856	193,997	399,655	1,293,807	120,462
1857	148,190	478,852	804,177	100,971
1858	158,478	479,576	1,065,920	103,398

STATEMENT NO. 18—(*Continued*).

YEARS.	Boats and passengers.	Products of the forest.	Agriculture.	Manufactures.
1859	$141,154	$627,238	$574,855	$87,598
1860	199,479	657,624	1,588,777	87,956
1861	207,924	398,647	2,872,198	95,722
1862	261,283	699,433	3,704,792	161,556
1863	242,348	715,059	3,106,443	137,017
1864	215,546	872,423	2,246,352	147,747
1865	193,604	741,302	2,304,411	144,090
1866	228,468	940,688	2,524,650	153,372
1867	202,876	1,019,627	2,066,082	137,788
1868	189,297	1,075,437	2,029,053	146,694
1869	170,634	1,041,395	1,759,481	104,389
1870	174,825	917,556	957,227	73,159
1871	187,421	827,344	1,428,471	79,517
1872	196,094	874,585	1,472,890	71,581
1873	189,800	760,106	1,546,055	68,542
1874	160,355	718,427	1,373,013	61,914
1875	132,497	361,589	774,316	67,683
1876	116,791	388,463	597,585	39,731
Total for 40 years	$7,964,249	$22,010,941	$57,534,614	$4,104,187
Yearly average	$199,106	$550,274	$1,438,365	$102,605
Per cent of each class	06.88	19.02	49.72	03.55

Average from 1837 to 1841 — five years.........	$190,426	$241,235	$582,527	$80,612
Average from 1842 to 1846 — five years.........	$186,000	$306,956	$1,053,265	$95,886
Average from 1847 to 1851 — five years.........	$249,380	$427,885	$1,629,190	$106,762
Average from 1852 to 1856 — five years.........	$223,132	$487,040	$1,282,591	$123,496
Average from 1857 to 1861 — five years.........	$171,045	$528,387	$1,381,185	$95,127
Average from 1862 to 1866 — five years.........	$228,250	$793,781	$2,777,310	$148,756
Average from 1867 to 1871 — five years.........	$185,011	$976,272	$1,648,063	$108,309
Average from 1872 to 1876 — five years.........	$159,107	$620,634	$1,152,772	$61,890

STATEMENT No. 18 — (*Continued*).

YEARS.	Merchandise.	Other articles.	Total.
1837	$380,826	$56,430	$1,289,430
1838	526,911	78,555	1,589,357
1839	535,486	83,662	1,614,966
1840, Genesee Valley canal opened	427,966	80,467	1,775,747
1841	558,003	102,078	2,034,882
1842	393,875	101,840	1,749,196
1843	502,617	116,273	2,081,590
1844	585,147	172,968	2,446,374
1845	625,900	211,335	2,546,181
1846	546,227	110,241	2,756,106
1847	670,979	201,749	3,635,381
1848	779,420	149,607	3,252,212
1849	769,913	145,357	3,268,226
1850	756,877	172,705	3,273,896
1851	877,438	169,310	3,329,727
1852	674,881	129,207	3,118,244
1853	719,762	146,255	3,204,718
1854	638,039	186,090	2,773,566
1855	660,105	173,885	2,805,077
1856	585,891	154,391	2,748,203
1857	342,410	171,041	2,045,641
1858	159,439	143,943	2,110,754
1859	112,542	180,576	1,723,945
1860	223,885	251,876	3,009,597

1861	107,958	226,336	3,908,785
1862	117,444	244,434	5,188,943
1863	137,253	307,087	4,645,207
1864	117,692	384,222	3,983,982
1865	111,879	344,669	3,839,955
1866	132,021	458,440	4,436,639
1867	163,368	498,317	4,088,058
1868	206,395	599,687	4,246,563
1869	166,160	536,442	3,778,501
1870	132,155	356,656	2,611,578
1871	140,199	437,886	3,100,838
1872	160,703	296,558	3,072,411
1873	79,646	332,569	2,976,718
1874	60,110	263,252	2,637,071
1875	27,374	226,573	1,590,032
1876	14,233	183,201	1,340,004
Total for 40 years	$14,928,129	$9,186,171	$115,728,291
Yearly average	$373,203	$229,654	$2,893,207
Per cent of each class	12.90	07.93	100.00
Average from 1837 to 1841 — five years	$485,838	$80,238	$1,660,876
Average from 1842 to 1846 — five years	$530,753	$142,531	$2,315,889
Average from 1847 to 1851 — five years	$770,925	$167,746	$3,331,888

STATEMENT No. 18 — (*Continued*).

YEARS.	Merchandise.	Other articles.	Total.
Average from 1852 to 1856 — five years	$665,736	$157,966	$2,929,961
Average from 1857 to 1861 — five years	$189,246	$194,754	$2,559,744
Average from 1862 to 1866 — five years	$123,058	$347,770	$4,418,925
Average from 1867 to 1871 — five years	$161,655	$485,797	$3,565,107
Average from 1872 to 1876 — five years	$68,413	$260,431	$2,323,247

(No. 19.)

TOTAL TONS of each class of articles that came to the Hudson river from the Erie canal, from 1837 to 1876, both inclusive.

YEARS.	Products of the forest.	Agriculture.	Manufactures.	Merchandise.	Other articles.	Total.
1837	181,644	145,718	8,350	356	51,438	387,506
1838	198,964	174,025	7,229	258	38,773	419,249
1839	185,728	155,082	6,686	405	38,366	383,267
1840	140,584	294,423	6,655	26	25,627	467,315
1841	237,520	265,920	12,778	142	16,160	532,520
1842	156,691	287,928	10,406	143	24,981	480,149
1843	239,585	338,968	23,542	134	33,116	635,345
1844	356,874	371,326	28,432	236	42,948	799,816
1845	420,190	430,454	43,184	206	65,556	959,590
1846	407,848	612,585	34,561	222	52,054	1,017,270
1847	445,975	875,365	25,755	690	83,417	1,431,252
1848	406,982	674,194	24,514	296	78,351	1,184,337
1849	442,106	736,009	24,340	205	64,064	1,266,724
1850	597,956	692,753	23,065	201	57,884	1,371,859
1851	552,345	856,127	29,872	247	70,086	1,508,677
1852	627,466	915,367	35,874	4,891	61,101	1,654,699
1853	835,304	895,672	37,098	6,302	77,062	1,851,438
1854	738,367	826,025	27,080	6,135	105,086	1,702,693
1855	569,080	753,277	23,159	9,400	65,799	1,420,715
1856	509,405	984,311	20,207	7,369	75,838	1,587,130
1857	503,428	516,755	23,825	8,115	65,076	1,117,199

STATEMENT No. 19—(*Continued*).

YEARS.	Products of the forest.	Agriculture.	Manufactures.	Merchandise.	Other articles.	Total.
1858	538,650	857,350	36,928	6,067	57,692	1,496,687
1859	776,855	505,004	23,518	5,176	140,780	1,451,333
1860	814,392	1,297,227	20,943	3,164	140,335	2,276,061
1861	429,324	1,871,723	24,406	1,358	122,798	4,449,609
1862	706,592	2,087,347	19,589	1,948	101,618	2,917,094
1863	682,215	1,809,911	25,944	2,674	126,945	2,647,689
1864	716,017	1,243,067	56,223	1,826	129,501	2,146,634
1865	627,089	1,302,711	33,896	1,181	113,484	2,078,361
1866	808,050	1,487,068	44,940	2,083	181,523	2,523,664
1867	837,581	1,099,983	50,020	1,934	236,594	2,226,112
1868	911,588	1,187,501	63,421	2,388	213,674	2,378,572
1869	873,431	1,055,932	67,267	1,947	259,112	2,257,689
1870	956,139	1,024,458	72,345	2,832	234,924	2,290,698
1871	816,802	1,539,243	78,177	2,747	211,908	2,648,877
1872	890,140	1,480,580	60,993	3,456	235,236	2,670,405
1873	925,535	1,396,236	39,237	4,587	219,760	2,585,355
1874	655,201	1,429,544	27,590	6,240	251,722	2,370,297
1875	490,000	1,133,622	51,786	1,769	237,765	1,914,942
1876	570,755	882,391	17,511	2,131	272,532	1,745,320
Total for 40 years	22,710,958	36,483,182	1,291,346	101,577	4,680,736	65,267,799
Yearly average	567,774	912,079	32,284	2,539	117,018	1,631,694

Per cent of each class	34.80	55.91	1.98	0.15	7.16	100.00
Average from 1837 to 1841 — five years	188,888	207,034	8,339	257	34,073	438,571
Average from 1842 to 1846 — five years	316,238	408,252	28,025	188	43,731	796,434
Average from 1847 to 1851 — five years	489,073	766,889	25,509	328	70,770	1,352,569
Average from 1852 to 1856 — five years	655,924	872,930	28,684	6,820	76,977	1,641,335
Average from 1857 to 1861 — five years	612,530	1,009,612	25,924	4,776	105,336	1,758,178
Average from 1862 to 1866 — five years	707,993	1,586,021	36,118	1,942	130,614	2,462,688
Average from 1867 to 1876 — ten years	792,717	1,222,949	52,835	3,003	237,323	2,308,827

(No. 20.)

TOTAL TONS of each class of articles which came to the Hudson river from the Champlain canal, from 1837 *to* 1876, *inclusive.*

YEARS.	Products of the forest.	Agriculture.	Manufactures.	Merchandise.	Other articles.	Total tons.
1837	202,373	5,751	1,774	38	13,339	224,275
1838	201,913	8,177	1,258	40	9,904	221,233
1839	191,992	8,703	6,979	94	13,193	215,861
1840	181,125	7,933	2,010	78	10,551	201,697
1841	211,575	4,320	5,113	13	20,793	241,814
1842	194,789	5,249	5,609	42	10,788	216,477
1843	186,588	7,172	5,951	67	11,738	201,516
1844	188,328	7,388	3,902	9	19,651	219,278
1845	187,740	17,173	6,628	49	33,765	245,353
1846	195,162	15,869	11,515	1,555	30,928	255,049
1847	220,138	22,352	25,777	4,141	40,623	313,031
1848	196,290	11,702	20,353	6,047	29,176	263,568
1849	223,441	33,591	19,948	5,669	30,574	313,222
1850	349,812	50,479	16,604	6,904	55,889	479,188
1851	360,923	35,293	22,430	4,333	45,495	468,474
1852	437,211	72,901	11,638	5,714	61,659	590,123
1853	504,957	36,517	15,719	6,331	90,835	654,359
1854	364,651	20,422	13,002	8,497	114,478	521,050
1855	308,725	29,327	21,685	6,159	108,982	474,878
1856	349,366	49,106	30,247	6,704	100,916	536,339
1857	295,558	45,139	31,786	8,872	118,633	499,988
1858	278,963	72,439	38,053	9,166	89,835	488,455

1859	346,752	105,313	39,561	10,628	168,085	670,339
1860	323,481	76,166	46,026	8,071	125,072	578,816
1861	261,262	62,524	18,668	7,047	181,034	530,535
1862	261,470	64,812	25,913	3,522	129,898	485,615
1863	367,344	88,342	30,324	2,449	138,569	627,038
1864	390,131	77,495	23,257	1,643	166,097	658,623
1865	424,527	76,620	24,315	3,121	123,327	651,820
1866	521,834	54,967	15,240	4,289	185,613	781,943
1867	521,706	43,729	27,230	3,262	207,656	803,583
1868	547,765	42,053	26,393	2,670	243,353	862,234
1869	579,988	31,173	17,356	3,175	206,761	838,453
1870	509,378	25,128	18,821	9,286	302,991	865,604
1871	531,177	32,516	16,734	4,856	261,646	846,929
1872	577,725	9,668	19,943	4,216	365,987	977,539
1873	382,936	25,233	7,184	7,504	368,437	791,294
1874	437,480	41,328	21,836	6,665	245,506	752,815
1875	323,275	41,873	18,423	6,572	303,692	693,835
1876	319,970	24,092	26,757	2,233	397,810	680,862
Total for forty years	13,420,821	1,490,975	736,822	171,746	5,182,697	21,003,061
Yearly average	335,520	37,274	18,421	4,294	129,567	525,076
Per cent of each class	63.90	7.09	3.51	0.82	24.68	100.
Average from 1837 to 1841 — five years	197,905	6,965	2,407	53	13,556	220,976
Average from 1842 to 1846 — five years	188,522	10,570	6,721	348	21,374	227,535

STATEMENT No. 20 — (*Continued*).

YEARS.	Products of the forest.	Agriculture.	Manufactures.	Merchandise.	Other articles.	Total tons.
Average from 1847 to 1851 — five years..	270,121	30,683	21,022	5,419	40,252	367,497
Average from 1852 to 1856 — five years..	392,982	41,854	18,478	6,681	95,374	555,369
Average from 1857 to 1861 — five years..	301,203	72,316	34,819	8,757	136,531	553,626
Average from 1862 to 1866 — five years..	393,062	72,448	23,810	3,005	148,682	641,007
Average from 1867 to 1877 — ten years ..	473,140	31,679	20,068	5,044	290,384	820,315

(No. 21.)

TOTAL TONS of each class of articles which came to the Hudson river from Erie and Champlain canals, from 1837 to 1876, was as follows:

YEARS.	Products of the forest.	Agriculture.	Manufactures.	Merchandise.	Other articles.	Total tons.
1837	385,017	151,469	10,124	394	64,777	611,781
1838	400,877	182,142	8,487	298	48,677	640,481
1839	377,720	163,785	8,565	499	51,195	602,128
1840	321,709	302,356	8,665	104	36,178	669,012
1841	449,095	270,240	17,891	155	36,953	774,334
1842	321,480	293,177	16,015	185	35,769	666,626
1843	416,173	346,140	29,493	201	44,854	836,861
1844	545,202	378,714	32,334	245	62,599	1,019,094
1845	607,930	447,627	49,812	253	99,321	1,204,943
1846	603,010	628,454	46,076	1,797	82,982	1,362,319
1847	666,113	897,717	51,532	4,831	124,090	1,744,283
1848	603,272	685,896	44,867	6,343	107,527	1,447,905
1849	665,547	769,600	44,288	5,873	94,638	1,579,946
1850	947,768	743,232	39,669	7,105	113,273	1,851,047
1851	913,268	891,420	52,303	4,580	115,581	1,977,151
1852	1,064,677	989,268	47,512	10,605	122,760	2,234,822
1853	1,340,261	932,189	52,817	12,633	167,897	2,505,797
1854	1,103,018	846,447	40,082	14,632	219,564	2,223,743
1855	877,805	782,604	44,844	15,559	174,781	1,895,593
1856	858,771	1,023,417	50,454	14,073	176,754	2,123,469
1857	798,986	561,894	55,611	16,987	183,709	1,617,187
1858	817,613	929,789	74,981	15,233	147,526	1,985,142

STATEMENT No. 21—(*Continued*).

YEARS.	Products of the forest.	Agriculture.	Manufactures.	Merchandise.	Other articles.	Total tons.
1859	1,123,607	610,317	63,079	15,804	308,865	2,121,672
1860	1,137,873	1,323,393	66,969	11,235	265,407	2,854,877
1861	690,586	1,934,247	43,074	8,405	303,832	2,980,144
1862	968,062	2,152,159	45,502	5,470	231,516	3,402,709
1863	1,049,559	1,898,253	56,268	5,123	265,524	3,274,727
1864	1,106,148	1,320,562	79,480	3,469	295,598	2,805,257
1865	1,051,616	1,379,331	52,211	4,302	236,721	2,730,181
1866	1,329,884	1,542,035	60,180	6,372	367,136	3,305,607
1867	1,359,287	1,143,712	77,200	5,196	444,250	3,029,695
1868	1,459,353	1,229,554	89,814	5,058	457,027	3,240,806
1869	1,453,419	1,087,105	84,623	5,122	465,873	3,096,142
1870	1,465,517	1,049,586	91,166	12,118	537,915	3,156,302
1871	1,347,979	1,570,754	94,911	7,603	473,554	3,494,801
1872	1,467,865	1,490,248	80,936	7,672	601,223	3,657,944
1873	1,308,471	1,421,469	46,421	12,091	588,197	3,376,649
1874	1,092,681	1,470,872	49,426	12,905	497,228	3,123,112
1875	813,275	1,175,495	70,209	8,341	541,457	2,608,777
1876	890,725	906,483	44,268	4,364	580,342	2,426,182
Total for forty years	36,131,779	37,973,152	2,022,208	273,235	9,773,434	86,173,808
Yearly average	903,294	949,329	50,555	6,831	244,336	2,154,345
Per cent of each class	41.93	44.06	2.34	0.33	11.34	100.

Average from 1837 to 1841 — five years	386,884	213,998	10,746	290	47,629	659,547
Average from 1842 to 1846 — five years	498,759	418,823	34,746	536	65,105	1,017,969
Average from 1847 to 1851 — five years	759,194	797,573	46,531	5,746	111,022	1,720,066
Average from 1852 to 1856 — five years	1,048,907	914,785	47,142	13,500	172,351	2,196,685
Average from 1857 to 1861 — five years	913,733	1,081,928	60,743	13,533	241,867	2,311,804
Average from 1862 to 1866 — five years	1,101,054	1,658,468	58,728	4,947	279,299	3,102,496
Average from 1867 to 1876 — ten years	1,265,857	1,254,528	72,897	8,047	519,719	3,121,048

(No. 22.)

TOLLS collected on and applicable or belonging to each canal in each year, up to 1876.

YEARS.	Erie canal.	Champlain canal.	Oswego canal.	Cayuga and Seneca canal.	Chemung canal.	Crooked Lake canal.	Chenango canal.
1823........	$199,635 08	....	....	....	....	....	....
1824........	294,546 62	$46,214 45	....	....	....	....	....
1825........	482,664 23	73,615 20	....	....	....	....	....
1826........	687,976 68	74,191 19	....	$2,757 67	....	....	....
1827........	775,919 22	83,341 02	....	....	....	....	....
1828........	727,650 20	107,757 08	$2,757 67	279 70	....	....	....
1829........	707,883 49	87,171 03	9,439 44	8,632 49	....	....	....
1830........	943,545 35	89,053 79	12,335 18	11,989 81	....	....	....
1831......	1,091,714 26	102,896 23	16,271 10	12,920 39	....	....	....
1832........	1,085,012 28	110,191 95	19,768 20	13,893 04	....	....	....
1833........	1,290,163 10	132,572 12	23,015 84	17,174 91	$694 00	$300 84	....
1834........	1,180,967 56	115,211 90	22,168 02	18,030 95	3,378 43	1,473 40	....
1835........	1,375,673 12	116,131 10	29,203 38	20,430 14	4,714 38	1,833 76	....
1836........	1,440,539 87	115,425 24	30,469 83	20,523 33	5,066 20	2,311 86	....
1837........	1,444,170 21	94,726 31	21,092 92	15,968 37	4,431 60	1,521 15	$10,812 72
1838........	1,414,174 21	104,125 15	27,376 38	18,397 47	4,394 53	2,016 32	20,430 87
1839........	1,427,031 53	113,753 69	34,162 42	18,747 47	5,187 27	1,721 31	15,778 34
1840........	1,597,334 46	102,427 74	35,522 93	18,848 57	4,958 41	1,723 52	14,001 53
1841........	1,813,650 58	117,841 14	38,244 22	23,583 37	9,396 42	2,017 32	18,315 48
1842........	1,568,946 50	95,957 54	31,222 19	16,648 16	7,702 05	989 39	13,615 38
1843........	1,880,334 55	102,308 50	36,203 92	19,417 38	9,762 57	1,327 18	16,914 75
1844........	2,190,147 33	116,739 32	56,164 93	24,618 17	14,385 13	1,497 89	22,177 96
1845........	2,361,884 24	119,210 41	58,347 05	22,520 14	21,444 53	1,952 73	26,521 75
1846........	2,449,275 58	108,094 60	58,185 43	28,282 11	11,503 44	1,912 81	23,492 86
1847........	3,333,347 36	120,097 80	77,933 34	28,925 95	16,677 70	1,946 50	28,570 33

1848........	2,947,881 76	117,500 60	79,793 22	28,814 20	16,191 25	1,821 70	32,272 80
1849........	2,962,132 09	121,672 00	91,220 39	27,192 71	15,781 34	1,796 04	21,295 45
1850	2,993,125 93	133,969 43	97,528 42	26,739 89	15,997 44	1,696 75	19,908 72
1851........	2,994,329 53	119,333 77	95,010 21	23,681 32	15,536 92	1,473 81	18,228 49
1852........	2,799,849 88	114,591 51	83,690 42	22,266 70	15,848 44	1,363 01	16,695 86
1853	1,833,970 80	120,998 02	97,297 93	24,849 50	19,603 18	1,391 06	20,228 18
1854.... ...	2,565,686 47	105,522 88	62,784 33	23,535 76	21,152 32	956 04	19,964 01
1855........	2,589,272 27	106,524 67	82,121 52	52,918 83	19,768 42	1,080 65	20,036 76
1856........	2,398,860 36	111,229 15	109,883 11	20,462 31	17,117 52	1,034 85	20,234 61
1857........	1,769,179 01	104,889 99	82,665 63	16,565 34	15,516 51	635 36	19,568 71
1858........	1,838,835 64	96,936 75	87,783 74	16,022 69	15,623 39	683 16	15,886 39
1859........	1,457,584 62	106,361 91	71,406 02	17,072 66	16,918 95	631 55	18,273 45
1860........	1,648,295 89	125,108 80	134,832 19	20,927 35	17,968 35	781 11	23,802 31
1861........	3,580,133 69	91,824 15	135,453 60	18,509 22	15,506 77	609 46	25,381 79
1862........	4,792,535 96	118,337 85	157,911 25	24,600 84	20,232 22	876 13	23,819 70
1863........	4,209,284 68	156,461 59	149,043 56	26,378 94	24,444 98	628 36	27,671 33
1864........	3,589,981 79	163,086 68	119,897 86	28,059 93	23,848 81	373 10	26,338 97
1865........	3,348,608 49	168,390 77	132,830 11	26,835 80	13,228 55	525 42	21,297 60
1866........	3,966,522 52	193,609 21	151,347 82	33,059 86	19,191 70	670 11	30,286 50
1867........	3,632,875 83	197,873 47	154,174 71	27,835 61	13,495 28	397 21	28,649 52
1868........	3,768,209 14	199,757 85	164,627 97	34,146 44	10,557 02	331 31	28,648 61
1869........	3,335,544 41	185,231 79	160,255 33	36,949 46	8,806 17	414 07	20,902 58
1870........	2,270,347 43	154,051 39	111,232 87	23,030 53	5,872 11	306 14	14,832 91
1871........	2,780,433 64	147,923 35	109,491 24	20,376 92	4,731 66	317 45	6,716 63
1872........	2,749,400 67	173,541 54	88,704 48	19,266 25	4,269 75	193 82	3,986 73
1873........	2,707,319 55	138,753 48	69,591 32	21,173 43	3,253 09	299 80	4,830 27
1874........	2,377,762 50	135,571 46	74,205 56	17,123 80	3,316 39	194 00	4,521 31
1875........	1,428,078 25	97,454 66	35,412 98	11,438 40	1,304 54	75 68	2,318 39
1876........	1,167,226 56	88,157 48	28,846 94	10,974 35	3,380 33	....	3,241 01

STATEMENT No. 22 — (*Continued*).

YEARS.	Genesee Valley canal.	Oneida Lake canal.	Seneca River towing-path.	Oneida River improvement.	Cayuga inlet.	Black River canal.	Baldwinsville canal.	Total.
1823								$190,635 08
1824								340,761 07
1825								566,279 49
1826								765,190 82
1827								859,260 24
1828								838,444 65
1829								813,137 45
1830								1,056,922 12
1831								1,223,801 98
1832								1,229,483 47
1833								1,462,820 98
1834								1,341,329 96
1835								1,548,986 48
1836								1,614,336 43
1837								1,292,623 38
1838								1,590,911 07
1839								1,616,382 02
1840	$6,930 40							1,775,747 57
1841	9,927 69	$462 02	$844 58					1,034,882 82
1842	13,204 11	462 63	149 51					1,749,197 51
1843	15,291 78	507 74	296 80					2,081,590 17
1844	19,641 20	621 45	381 13					2,446,374 52
1845	23,173 93	653 53	473 52					2,646,181 87
1846	23,448 57	542 52	368 10	$14 52				2,756,120 89
1847	26,707 25	624 74	372 96	176 07				3,635,380 00

1848	26,722 12	688 97	469 72	236 89	......	....	......	3,252,212 19
1849	25,567 42	821 06	274 82	239 71	$232 95	....	......	3,268,826 03
1850	27,675 95	3,683 62	270 42	9,483 14	189 14	$2,629 89	......	3,273,899 22
1851	26,817 07	7,593 84	226 15	23,658 95	175 03	3,661 91	......	3,329,727 00
1852	24,917 96	8,009 78	187 08	25,680 08	274 53	4,628 67	......	3,118,244 02
1853	31,239 71	11,571 67	111 12	37,630 47	268 17	4,698 71	$864 25	3,204,717 99
1854	30,907 78	9,040 48	244 92	29,508 91	320 43	5,880 07	61 95	2,773,566 35
1855	25,546 98	7,012,21	271 90	23,200 69	352 21	6,897 92	71 17	2,805,076 10
1856	22,831 56	9,318 42	277 92	31,163 86	352 71	5,385 05	60 24	2,748,211 67
1857	25,203 81	1,265 53	145 99	3,546 37	318 81	6,131 57	13 12	2,045,640 75
1858	27,913 34	1,565 79	138 37	4,871 96	177 88	5,294 15	20 67	2,110,753 82
1859	27,855 51	320 23	142 16	1,040 16	184 48	6,129 65	23 62	1,723,944 97
1860	30,232 68	287 97	187 81	886 80	143 63	6,113 52	28 63	3,009,597 04
1861	23,806 30	210 93	229 89	1,127 88	143 96	6,827 88	19 30	3,908,784 81
1862	35,921 70	70 96	527 70	3,908 57	318 52	9,834 18	44 56	5,188,943 14
1863	34,303 39	39 43	503 50	4,392 59	376 96	11,641 98	35 82	4,645,207 11
1864	24,033 83	....	375 36	2,481 22	304 23	11,200 05	......	3,983,981 83
1865	14,465 06	....	400 02	2,474 48	240 20	10,658 30	......	3,830,954 80
1866	25,979 88	....	392 06	3,286 42	287 94	13,003 17	......	4,436,637 30
1867	18,669 59	....	310 25	2,271 80	344 77	11,159 90	......	4,088,057 94
1868	26,169 08	....	342 42	2,142 83	642 58	10,988 81	......	4,246,563 56
1869	17,094 34	....	378 08	1,145 41	290 46	11,489 08	......	3,778,501 18
1870	19,172 74	....	171 05	786 24	258 40	12,515 87	......	2,611,577 68
1871	18,730 26	....	131 47	584 09	194 50	11,207 61	......	3,100,838 82
1872	20,514 13	....	222 05	798 52	423 20	11,090 58	......	3,072,411 72
1873	20,349 84	....	137 43	465 13	472 69	10,072 24	......	2,976,718 54
1874	13,016 88	....	95 66	432 89	306 51	10,523 96	......	2,637,070 92
1875	7,585 34	....	36 49	206 33	394 58	5,726 61	......	1,590,032 25
1876	21,022 81	....	149 07	499 13	324 75	16,180 87	......	1,340,003 30

STATEMENT No. 22 — (*Continued*).

YEARS.	Genesee Valley canal.	Oneida Lake canal.	Seneca River towing-path.	Oneida River improvement.	Cayuga inlet.	Black River canal.	Baldwinsville canal.	Total.
1823	......	......	......	......	......	......	......	$190,635 08
1824	......	......	......	......	......	......	......	340,761 07
1825	......	......	......	......	......	......	......	566,279 49
1826	......	......	......	......	......	......	......	765,190 82
1827	......	......	......	......	......	......	......	859,260 24
1828	......	......	......	......	......	......	......	838,444 65
1829	......	......	......	......	......	......	......	813,137 45
1830	......	......	......	......	......	......	......	1,056,922 12
1831	......	......	......	......	......	......	......	1,223,801 98
1832	......	......	......	......	......	......	......	1,229,483 47
1833	......	......	......	......	......	......	......	1,462,820 98
1834	......	......	......	......	......	......	......	1,341,329 96
1835	......	......	......	......	......	......	......	1,548,986 48
1836	......	......	......	......	......	......	......	1,614,336 43
1837	......	......	......	......	......	......	......	1,292,623 38
1838	......	......	......	......	......	......	......	1,590,911 07
1839	......	......	......	......	......	......	......	1,616,382 02
1840	$6,930 40	......	......	......	......	......	......	1,775,747 57
1841	9,927 69	$462 02	$844 58	......	......	......	......	1,034,882 82
1842	13,204 11	462 63	149 51	......	......	......	......	1,749,197 51
1843	15,291 78	507 74	296 80	......	......	......	......	2,081,590 17
1844	19,641 20	621 45	381 13	......	......	......	......	2,446,374 52
1845	23,173 93	653 53	473 52	......	......	......	......	2,646,181 87
1846	23,448 57	542 52	368 10	$14 52	......	......	......	2,756,120 89
1847	26,707 25	624 74	372 96	176 07	......	......	......	3,635,380 00

1848	26,722 12	688 97	469 72	236 89	......	....	......	3,252,212 19
1849	25,567 42	821 06	274 82	239 71	$232 95	....	......	3,268,826 03
1850	27,675 95	3,683 62	270 42	9,483 14	189 14	$2,629 89	......	3,273,899 22
1851	26,817 07	7,593 84	226 15	23,658 95	175 03	3,661 91	......	3,329,727 00
1852	24,917 96	8,009 78	187 08	25,680 08	274 53	4,628 67	......	3,118,244 02
1853	31,239 71	11,571 67	111 12	37,630 47	268 17	4,698 71	$864 25	3,204,717 99
1854	30,907 78	9,040 48	244 92	29,508 91	320 43	5,880 07	61 95	2,773,566 35
1855	25,546 98	7,012,21	271 90	23,200 69	352 21	6,897 92	71 17	2,805,076 10
1856	22,831 56	9,318 42	277 92	31,163 86	352 71	5,385 05	60 24	2,748,211 67
1857	25,203 81	1,265 53	145 99	3,546 37	318 81	6,131 57	13 12	2,045,640 75
1858	27,913 34	1,565 79	138 37	4,871 96	177 88	5,294 15	20 67	2,110,753 82
1859	27,855 51	320 23	142 16	1,040 16	184 48	6,129 65	23 62	1,723,944 97
1860	30,232 68	287 97	187 81	886 80	143 63	6,113 52	28 63	3,009,597 04
1861	23,806 30	210 93	229 89	1,127 88	143 96	6,827 88	19 30	3,908,784 81
1862	35,921 70	70 96	527 70	3,908 57	318 52	9,834 18	44 56	5,188,943 14
1863	34,303 39	39 43	503 50	4,392 59	376 96	11,641 98	35 82	4,645,207 11
1864	24,033 83	....	375 36	2,481 22	304 23	11,200 05	......	3,983,981 83
1865	14,465 06	....	400 02	2,474 48	240 20	10,658 30	......	3,830,954 80
1866	25,979 88	....	392 06	3,286 42	287 94	13,003 17	......	4,436,637 30
1867	18,669 59	....	310 25	2,271 80	344 77	11,159 90	......	4,088,057 94
1868	26,169 08	....	342 42	2,142 83	642 58	10,988 81	......	4,246,563 56
1869	17,094 34	....	378 08	1,145 41	290 46	11,489 08	......	3,778,501 18
1870	19,172 74	....	171 05	786 24	258 40	12,515 87	......	2,611,577 68
1871	18,730 26	....	131 47	584 09	194 50	11,207 61	......	3,100,838 82
1872	20,514 13	....	222 05	798 52	423 20	11,090 58	......	3,072,411 72
1873	20,349 84	....	137 43	465 13	472 69	10,072 24	......	2,976,718 54
1874	13,016 88	....	95 66	432 89	306 51	10,523 96	......	2,637,070 92
1875	7,585 34	....	36 49	206 33	394 58	5,726 61	......	1,590,032 25
1876	21,022 81	....	149 07	499 13	324 75	16,180 87	......	1,340,003 30

(No. 23.)

TONS of merchandise going to other States by way of Buffalo, from 1860 *to* 1876, *inclusive.*

STATES, ETC.	1860.	1861.	1862.	1863.	1864.	1865.	1866.	1867.
Pennsylvania......	1,439	706	861	899	535	420	147	331
Ohio	10,003	5,159	7,340	9,726	6,106	8,093	5,785	5,678
Michigan	13,509	6,476	7,137	6,414	4,782	5,406	4,874	12,885
Indiana...........	2,967	1,470	793	1,869	1,144	2,151	1,638	2,987
Illinois	24,386	12,108	24,118	21,024	25,842	24,575	41,287	44,589
Wisconsin	13,517	6,920	9,705	20,562	9,856	11,407	11,359	14,116
Kentucky.........	111	38	351	879	130	206	19	323
Missouri	2,284	706	1,685	1,245	1,680	1,281	1,407	892
Tennessee	18	....	....	....	....	20	....	....
Alabama	....	....	....	....	....	....	....	....
Minnesota.........	699	489	....	....	3,045	361	863	452
Iowa	1,355	834	850	1,371	3,991	1,992	808	783
Canada	842	332	105	135	227	3,263	188	9
	72,030	35,278	52,945	64,124	57,338	59,175	68,375	83,045

STATEMENT No. 23—(*Continued*).

STATES, ETC.	1868.	1869.	1870.	1871.	1872.	1873.	1874.	1875.	1876.
Pennsylvania .	9	12	206	174	821	73	32	90	....
Ohio	9,227	4,926	7,923	4,424	10,571	3,778	1,272	898	124
Michigan	8,232	8,339	4,072	4,215	15,299	10,743	2,095	6,296	67
Indiana	2,021	2,113	952	1,072	10,133	2,136	416	335	1
Illinois	48,884	47,891	51,161	54,574	40,315	26,916	23,416	5,431	2,341
Wisconsin	23,986	6,610	8,532	15,174	15,962	10,780	3,165	1,538	406
Kentucky	1,493	......	733	528	565	385	64	88	....
Missouri	2,775	3,163	10,610	14,727	19,284	1,404	430	121	....
Tennessee	......	......	......	....	....	....	....	....	....
Alabama	......	......	......	....	....	....	....	....	....
Minnesota	1,313	13,157	5,487	21,313	10,649	482	381	144	4
Iowa	1,428	4,552	6,510	6,377	4,460	518	673	674	20
Canada	191	......	......	....	18,354	364	115	11,752	307
	99,559	90,763	96,186	122,578	146,413	57,579	32,059	27,367	3,270

(No. 24.)

TONS arriving at tide water, the produce of the State, by way of Erie canal, including the contributions of the lateral canals.

YEARS.	Products of the forest.	Agriculture.	Manufactures.	Other articles.	Total.
1836.....	208,767	117,870	10,152	28,105	364,901
1837.....	174,007	98,172	7,879	51,193	331,251
1838.....	189,733	101,053	6,729	38,501	336,016
1839.....	157,075	63,713	5,885	37,914	264,596
1840.....	119,352	159,823	5,388	24,613	309,167
1841.....	192,121	92,482	9,076	14,663	308,344
1842.....	125,623	102,030	7,746	23,273	258,672
1843.....	202,810	124,313	21,465	30,381	378,969
1844.....	288,786	135,171	27,579	40,255	491,791
1845.....	328,955	224,032	40,619	61,433	655,039
1846.....	320,838	202,474	31,857	45,493	600,662
1847.....	328,652	192,224	20,939	76,596	618,412
1848.....	264,549	184,714	19,250	65,668	531,183
1849.....	227,847	200,471	18,399	51,348	498,068
1850.....	269,894	200,943	15,217	35,566	521,620
1851.....	183,593	168,433	15,401	54,958	422,385
1852.....	290,574	136,549	14,232	51,366	452,721
1853.....	391,224	168,017	20,045	58,462	637,748
1854.....	357,690	148,330	16,440	79,707	602,167
1855.....	220,865	43,624	22,320	41,030	327,839
1856.....	173,608	118,164	24,725	58,083	374,580
1857.....	66,824	68,381	13,747	48,249	197,201
1858.....	147,511	23,421	17,843	34,813	223,588
1859.....	226,450	84,107	14,920	85,917	311,394
1860.....	166,687	120,226	15,135	77,038	379,086
1861.....	104,094	109,791	7,516	69,783	291,184
1862.....	143,246	118,906	5,419	54,686	322,257
1863.....	145,105	133,431	8,648	81,253	368,437
1864.....	61,167	52,675	42,712	82,844	239,498
1865.....	23,152	71,369	25,992	53,025	173,538
1866.....	101,665	61,843	40,140	84,310	287,948
1867.....	22,855	49,499	46,196	104,156	222,706
1868.....	20,517	3,685	61,455	77,693	163,350
1869.....	15,493	24,962	67,209	121,457	229,121
1870.....	18,340	17,168	68,551	137,692	241,751
1871.....	13,457	20,779	68,722	105,983	208,941
1872.....	4,662	17,045	64,449	128,227	214,383
1873.....	116,156	....	39,237	68,144	223,537
1874.....	35,592	28,551	27,567	171,985	263,693
1875.....	....	3,466	52,691	194,729	250,886
1876.....	76,760	7,312	17,360	239,003	340,435

(No. 25.)

TONS arriving at tide water by way of the Erie canal, the produce of Western States and Canadas.

YEARS.	Products of the forest.	Agriculture.	Manufactures.	Other articles.	Total.
1836 ...	5,400	48,000	654	165	54,219
1837 ...	7,637	46,546	471	601	56,255
1838 ...	9,231	72,972	500	530	84,233
1839 ...	28,644	91,369	801	857	121,671
1840 ...	21,241	134,600	1,267	1,040	158,148
1841 ...	45,398	173,437	3,702	1,639	224,176
1842 ...	31,068	185,898	2,659	1,851	221,477
1843 ...	36,755	214,655	2,077	2,869	256,376
1844 ...	68,088	236,155	853	2,929	308,025
1845 ...	91,235	206,422	2,565	4,320	304,551
1846 ...	87,010	410,111	2,926	6,873	506,830
1847 ...	117,323	683,138	5,508	6,871	812,840
1848 ...	142,433	489,473	5,560	12,683	650,154
1849 ...	214,259	535,538	6,146	12,716	768,659
1850 ...	328,062	491,810	7,848	22,519	850,239
1851 ...	368,752	687,694	14,471	15,375	1,086,292
1852 ...	336,892	778,818	21,642	14,626	1,151,978
1853 ...	444,080	727,655	23,355	18,600	1,213,690
1854 ...	380,677	677,695	10,640	25,379	1,094,391
1855 ...	348,215	709,653	10,239	24,769	1,092,876
1856 ...	835,797	856,147	2,851	17,755	1,212,550
1857 ...	436,604	548,374	10,078	24,942	1,019,998
1858 ...	491,139	833,929	19,085	28,946	1,273,099
1859 ...	550,405	420,897	8,598	54,863	1,034,763
1860 ...	647,705	1,177,001	5,808	66,461	1,896,975
1861 ...	325,230	1,761,932	18,248	53,015	2,158,425
1862 ...	563,346	1,968,441	14,170	48,880	2,594,837
1863 ...	537,110	1,676,480	17,296	48,366	2,279,252
1864 ...	654,850	1,190,392	13,511	48,483	1,907,136
1865 ...	603,937	1,231,342	7,904	60,459	1,903,642
1866 ...	706,385	1,425,235	4,800	99,296	2,235,716
1867 ...	814,726	1,178,004	4,237	132,438	2,129,405
1868 ...	891,071	1,183,816	4,354	135,981	2,215,222
1869 ...	857,938	1,030,970	2,005	137,655	2,028,568
1870 ...	937,799	1,007,290	3,794	100,064	2,048,947
1871 ...	857,195	1,583,435	2,235	115,552	2,558,417
1872 ...	885,478	1,463,535	......	107,009	2,456,022
1873 ...	809,379	1,563,849	......	151,516	2,524,754
1874 ...	719,609	1,400,993	23	85,977	2,206,604
1875 ...	490,000	1,130,156	864	43,036	1,664,056
1876 ...	493,995	875,079	151	33,529	1,402,754

(No. 26.)

THE QUANTITY of wheat and flour shipped at Buffalo, Oswego and Whitehall, from the year 1835 *to* 1876; *at Black Rock, from* 1839 *to* 1856, *inclusive; and at Tonawanda, from* 1850 *to* 1876, *inclusive, was as follows:*

YEARS.	BUFFALO.		BLACK ROCK.		TONAWANDA.		OSWEGO.		WHITEHALL.		TOTAL.	
	Flour, bbls.	Wheat, bush.	Flour, bbls.	Wheat, bush.	Flour, bbls.	Wheat, bush.	Flour, bbls.	Wheat, bush.	Flour, bbls.	Wheat, bush.	Flour, bbls.	Wheat, bush.
1835	100,883	168,012	....	....	....	....	123,421	51,962	140	....	224,444	219,974
1836	139,178	304,090	....	....	....	....	94,667	112,224	63	11,547	233,909	427,858
1837	126,815	450,350	....	....	....	....	66,002	10,025	....	107	192,827	460,482
1838	277,620	933,117	....	....	....	....	76,098	59,710	....	....	353,718	992,827
1839	288,168	965,000	69,278	7,156	....	....	110,390	106,210	....	10	467,836	1,078,376
1840	639,633	883,100	109,967	31,534	....	....	116,300	83,839	....	....	865,920	1,008,478
1841	648,686	1,207,135	179,268	182,783	....	....	128,094	94,779	10	....	956,058	1,384,697
1842	654,429	1,228,120	109,673	39,672	....	....	118,027	53,022	....	....	882,129	1,320,814
1843	880,868	1,699,724	111,327	28,620	....	....	209,269	108,564	4	23	1,201,468	1,835,936
1844	851,180	1,786,104	127,702	62,558	....	....	346,959	160,699	....	58	1,325,842	2,009,419
1845	721,891	1,854,996	153,795	18,790	....	....	379,383	119,572	....	656	1,255,069	1,494,014
1846	1,291,283	3,613,569	146,761	23,797	....	....	471,818	433,446	26	165	1,909,338	4,070,977
1847	1,908,351	5,816,362	165,335	20,368	....	....	610,494	718,531	2,477	2,575	2,681,657	6,552,836
1848	1,241,870	3,973,440	153,794	92,201	....	....	614,337	800,295	181	....	2,010,682	4,865,836
1849	1,034,938	3,940,350	181,565	86,242	....	....	808,307	1,003,462	18,579	868	2,048,889	4,090,922
1850	984,430	3,304,697	187,958	131,916	74,990	190,549	804,746	1,552,012	25,741	80	2,074,685	5,179,256
1851	1,106,852	3,669,005	214,647	75,827	170,181	162,069	888,131	1,676,213	8,418	7	2,387,729	5,582,121
1852	959,114	4,759,281	237,866	254,857	221,484	364,947	881,645	2,907,199	52,803	288,894	2,352,412	8,475,178
1853	658,364	4,958,818	247,587	232,176	214,890	332,953	853,956	4,518,518	50,045	155,877	2,024,842	10,248,337
1854	288,124	2,811,687	112,135	26,822	44,405	11,711	806,277	1,329,885	26,716	274	777,656	4,180,379
1855	235,578	6,455,641	99,017	48,962	7,960	79,839	398,657	2,698,377	10,642	2,917	751,854	9,230,756
1856	76,476	7,497,999	30,675	26,291	76	16,456	395,523	5,994,209	2,115	855	504,865	13,535,810
1857	88,092	6,673,827	....	....	27,924	36,018	254,621	2,572,429	48,617	33,485	419,254	9,315,759
1858	771,602	8,294,690	....	....	41,754	118,056	467,886	4,071,391	269	4,687	1,281,511	12,488,824
1859	220,486	6,168,068	....	....	6,862	274,305	253,510	2,198,882	5,121	....	485,979	8,641,255
1860	180,853	18,951,453	....	....	9,681	962,358	421,032	6,786,606	302	....	611,868	21,700,422
1861	306,236	23,718,714	....	....	22,878	270,088	433,546	7,695,262	500	350	763,155	31,679,363
1862	451,814	27,751,786	....	....	2,121	64,844	499,825	7,408,513	2,591	....	956,861	35,225,143
1863	469,792	19,404,308	....	....	42,640	52,518	374,593	6,061,611	462	....	887,487	25,518,432
1864	126,820	16,138,386	....	....	156,456	19,600	263,672	3,129,648	1,534	....	548,482	19,287,634
1865	142,018	10,202,141	....	....	135	48,486	277,814	2,678,667	3,723	50,236	423,690	12,979,530
1866	52,325	7,772,217	....	....	148	56	156,791	2,190,335	502	501	209,761	9,963,109
1867	15,468	10,109,718	....	....	1,282	7,012	74,761	2,511,181	19	....	91,530	12,628,061
1868	5,774	10,369,080	....	....	1,316	63,606	46,741	3,558,231	....	....	53,831	13,790,867
1869	51,928	16,463,480	....	....	5	364	68,161	4,711,984	126	....	120,220	21,075,828

1870	76,471	16,738,613	....	....	....	....	105,925	3,857,727	27	....	182,423	20,596,340
1871	47,731	19,028,316	....	....	4,200	....	92,997	4,105,784	....	....	144,928	23,134,100
1872	5,172	11,001,069	....	....	6	2,000	44,202	1,928,850	....	....	49,880	12,931,919
1873	18,616	24,569,088	....	....	60	3,187	87,241	1,775,398	....	....	50,917	26,347,623
1874	49,182	21,672,048	....	....	5	2,050	41,902	3,609,627	50	....	91,139	25,283,725
1875	54,250	23,177,166	....	....	....	....	16,000	1,089,666	417	....	70,667	24,266,882
1876	2,139	12,577,233	....	....	....	....	8,955	729,666	....	....	11,094	13,306,899

(No. 27.)

The total miles run in each year by all the boats, is as follows:

YEARS.	Packets.	Freight boats.	Total miles.
1837	405,050	5,556,950	5,962,000
1838	400,250	5,126,800	6,527,050
1839	290,900	5,785,850	6,076,750
1840	258,880	5,952,300	6,212,180
1841	322,860	7,103,580	7,426,410
1842	354,300	6,173,200	6,527,500
1843	381,820	6,586,700	6,968,520
1844	427,740	7,841,750	8,268,490
1845	420,540	7,924,250	8,344,790
1846	414,340	9,065,450	9,479,790
1847	443,080	11,733,250	12,176,330
1848	542,300	9,633,850	10,176,150
1849	305,760	10,153,350	10,459,110
1850	343,475	10,718,100	11,061,575
1851	202,150	11,926,950	12,133,100
1852	71,775	12,306,950	12,378,675
1853	64,650	12,327,050	12,373,700
1854	24,675	11,244,200	11,268,875
1855	28,875	9,671,450	10,700,325
1856	21,175	9,656,700	9,677,875
1857	16,950	7,347,850	7,391,800
1858	18,775	7,886,100	7,904,825
1859	22,625	7,010,750	7,033,375
1860	21,150	9,930,300	9,951,450
1861	22,300	10,351,350	10,373,650
1862	20,450	13,021,950	13,042,400
1863	71,050	11,974,550	12,045,600
1864	13,950	10,748,650	10,762,600
1865	51,200	9,576,750	9,627,950
1866	23,025	11,376,400	11,399,425
1867	21,000	10,101,400	10,122,400
1868	30,050	9,403,400	9,433,450
1869	133,425	8,263,650	8,397,075
1870	14,925	8,674,550	8,689,475
1871	12,950	9,345,150	9,358,100
1872	12,200	9,780,300	9,792,500
1873	4,550	9,480,900	9,485,450
1874	5,775	8,004,850	8,010,625
1875	2,725	6,618,450	6,621,175
1876	7,575	5,823,200	5,830,775

(No. 28.)

STATEMENT of the tons of property going from tide water, the tons arriving at tide water from Western States and from this State, the total tons arriving at tide water, the tons of the internal trade of this State, and the tons of the total movement on all the canals, from 1836 *to* 1876.

YEARS.	Going from tide water.	ARRIVING AT TIDE WATER.				Total arriving at tide water.	Internal movement of this State.	Total movement.
		By way of Erie canal.		By way of Champlain canal.				
		From Western States.	From this State.	From Vermont and Canada.	From this State.			
1836	133,796	54,219	364,906	53,853	223,369	696,347	480,666	1,310,807
1837	122,130	56,255	331,251	43,546	180,729	611,781	437,385	1,171,296
1838	142,808	83,233	336,016	36,330	184,902	640,481	549,722	1,333,011
1839	142,035	121,761	264,596	56,308	159,553	602,128	691,550	1,435,713
1840	129,580	158,148	309,167	50,900	150,797	669,012	617,454	1,416,046
1841	162,715	224,176	308,344	50,909	190,905	774,334	584,612	1,521,661
1842	123,294	221,477	258,672	30,515	155,962	666,676	447,011	1,236,931
1843	143,595	256,376	378,969	32,126	169,390	836,861	532,983	1,513,439
1844	176,737	308,025	491,791	33,974	185,304	1,019,094	620,755	1,816,586
1845	195,000	304,551	655,039	33,389	211,964	1,204,943	577,622	1,977,565
1846	213,815	506,830	600,440	41,852	213,196	1,362,319	692,528	2,268,662
1847	288,267	812,840	618,412	51,377	261,654	1,744,283	837,260	2,869,810
1848	329,557	650,154	534,183	34,528	229,040	1,447,905	1,018,768	2,796,230
1849	315,550	768,659	498,065	65,471	247,751	1,579,946	999,236	2,894,732
1850	418,370	841,501	530,358	124,033	355,155	2,033,863	624,384	3,076,617
1851	467,961	1,045,820	462,857	80,656	387,818	1,977,151	1,137,621	3,582,733
1852	521,527	1,151,978	492,726	107,941	482,182	2,334,828	1,107,087	3,863,441
1853	584,141	1,213,690	637,748	129,609	524,750	2,505,787	1,157,914	4,247,852
1854	531,831	1,094,391	602,167	108,848	412,202	3,223,743	1,410,288	4,165,862

STATEMENT No. 28 — (*Continued*).

YEARS.	Going from tide water.	ARRIVING AT TIDE WATER.				Total arriving at tide water.	Internal movement of this State.	Total movement.
		By way of Erie canal.		By way of Champlain canal.				
		From Western States.	From this State.	From Vermont and Canada.	From this State.			
1855	504,696	1,092,876	327,839	99,928	374,950	1,895,593	1,622,328	4,022,617
1856	573,733	1,212,550	374,580	91,254	445,085	2,123,469	1,418,880	4,116,082
1857	340,176	1,019,998	197,201	92,207	407,781	1,617,187	1,386,698	3,344,061
1858	287,073	1,273,099	223,588	93,069	395,386	1,985,142	1,392,977	3,665,192
1859	317,459	1,036,634	414,699	122,917	547,422	2,121,672	1,342,553	3,781,684
1860	373,735	1,896,975	379,086	104,150	474,666	2,854,877	1,421,602	4,650,214
1861	340,736	2,158,425	291,184	53,096	477,442	2,980,144	1,186,755	4,507,635
1862	417,623	2,594,837	322,257	72,601	413,014	3,402,709	1,778,453	5,598,585
1863	456,800	2,279,252	368,437	198,116	428,922	3,274,727	1,826,165	5,557,692
1864	493,913	1,907,136	239,498	195,532	466,091	2,805,257	1,553,771	4,852,941
1865	458,684	1,904,156	174,205	202,331	449,489	2,730,181	1,540,789	4,729,564
1866	626,974	2,235,716	287,948	220,890	561,053	3,305,607	1,842,639	5,775,220
1867	792,573	2,129,405	96,707	206,634	596,949	3,029,695	1,866,057	5,688,325
1868	1,067,020	2,215,222	163,350	193,474	668,760	3,240,806	2,134,399	6,442,225
1869	772,201	2,028,568	229,121	203,876	634,577	3,096,142	1,990,737	5,859,080
1870	940,429	2,048,947	241,751	244,617	620,987	3,156,302	2,077,038	6,173,769
1871	801,538	2,558,417	208,941	212,054	634,875	3,614,287	2,052,063	6,467,888
1872	926,228	2,456,022	214,383	261,058	716,481	3,647,944	2,099,198	6,673,370
1873	795,117	2,527,068	58,287	27,895	763,399	3,376,649	2,193,016	6,364,782
1874	753,981	2,206,604	263,693	193,523	559,292	3,223,112	1,827,495	5,804,588
1875	701,253	1,664,056	250,886	135,115	558,720	2,608,777	1,549,828	4,859,858
1876	745,797	1,402,768	342,552	128,223	552,639	2,426,182	1,000,150	4,172,129

(No. 29.)

THE FOREST.

STATEMENT of the tons arriving at tide water from Western States and from this State, the total tons arriving at tide water, the tons of the internal trade of this State, and the tons of the total movement on all the canals from 1836 *to* 1876.

YEARS.	ARRIVING AT TIDE WATER.				Total arriving at tide water.	Internal movement of this State.	Total movement.
	By way of the Erie canal.		By way of Champlain canal.				
	From Western States and Canada.	From this State, E. and lateral canals.	From Vermont and Canada.	From this State.			
1836	5,400	208,779	45,951	213,538	473,663	281,589	755,252
1837	7,637	174,007	37,954	165,419	385,017	233,694	618,711
1838	9,231	189,733	29,882	172,031	400,877	264,212	665,089
1839	28,664	157,075	48,098	143,894	377,711	289,870	667,581
1840	21,241	119,352	43,861	137,264	321,718	265,929	587,647
1841	45,398	192,122	43,896	167,679	449,095	196,453	645,548
1842	31,069	125,623	22,783	102,006	321,481	183,116	504,597
1843	36,775	202,810	22,131	154,457	416,173	271,011	687,184
1844	68,088	288,986	21,652	166,676	545,202	319,171	864,373
1845	91,235	328,955	18,179	169,651	607,930	273,844	881,774
1846	87,010	320,838	24,042	171,120	603,010	313,966	916,676
1847	117,233	328,652	32,942	187,196	666,113	421,601	1,087,714
1848	142,433	264,549	21,253	175,037	603,272	483,608	1,086,880
1849	214,259	227,847	43,550	179,891	655,547	439,393	1,104,940
1850	329,062	268,894	102,013	247,799	947,768	314,223	1,261,991
1851	328,688	223,657	66,524	294,399	913,268	480,430	1,393,698
1852	336,892	290,574	81,432	355,779	1,064,677	521,403	1,586,080
1853	444,080	391,224	110,337	394,620	1,340,261	481,261	1,821,522
1854	380,677	357,690	104,034	260,617	1,103,018	665,727	1,768,745

STATEMENT No. 29 — (*Continued*).

YEARS.	Arriving at Tide water.				Total arriving at tide water.	Internal movement of this State.	Total movement.
	By way of the Erie canal.		By way of Champlain canal.				
	From Western States and Canada.	From this State, E. and lateral canals.	From Vermont and Canada.	From this State.			
1855	348,215	220,865	85,762	222,963	877,805	657,129	1,534,934
1856	335,797	173,608	69,339	280,027	858,771	619,903	1,478,674
1857	436,604	66,824	59,177	236,381	798,986	565,016	1,364,002
1858	391,139	147,511	62,803	216,160	817,613	415,355	1,232,968
1859	550,405	226,450	73,788	272,964	1,123,607	418,428	1,542,035
1860	647,705	166,687	56,498	266,983	1,137,873	372,104	1,509,977
1861	325,230	104,094	26,501	234,761	690,586	361,806	1,052,392
1862	563,346	143,246	34,785	226,685	968,062	601,612	1,569,674
1863	537,110	145,105	88,839	278,505	1,049,559	579,129	1,628,688
1864	654,850	61,167	142,533	247,598	1,106,148	372,773	1,478,921
1865	603,937	23,152	146,695	277,832	1,051,616	415,699	1,467,315
1866	706,385	101,665	206,535	315,299	1,329,884	440,110	1,769,994
1867	814,726	22,855	196,820	324,886	1,359,287	384,965	1,744,252
1868	891,071	20,517	182,145	365,620	1,459,353	498,956	1,958,309
1869	857,938	15,493	194,516	385,472	1,453,419	402,511	1,855,930
1870	937,799	18,340	227,795	281,583	1,465,517	450,994	1,916,511
1871	857,195	13,457	204,944	326,233	1,401,829	539,468	1,941,297
1872	885,478	4,662	254,885	322,840	1,467,865	482,933	1,950,798
1873	809,379	116,156	20,512	362,424	1,308,471	277,064	1,585,535
1874	719,609	35,592	182,922	254,558	1,192,681	290,072	1,482,753
1875	490,000	....	125,265	198,010	813,275	437,271	1,250,546
1876	493,995	76,760	120,407	199,563	890,725	284,588	1,175,313

(No. 30.)

AGRICULTURE.

STATEMENT of the tons arriving at tide water from Western States and from this State, the total tons arriving at tide water, the tons of the internal trade of this State, and the tons of the total movement on all the canals, from 1836 *to* 1876.

YEARS.	ARRIVING AT TIDE WATER.				Total arriving at tide water.	Internal movement of this State.	Total movement.
	By way of the Erie canal.		By way of Champlain canal.				
	From Western States and Canada	From this State, E. and lateral canals.	From Vermont and Canada.	From this State.			
1836	48,000	117,880	3,977	3,153	173,400	52,747	225,747
1837	47,546	98,172	2,209	3,541	151,468	56,575	208,043
1838	72,972	101,053	3,460	4,657	182,142	73,085	255,227
1839	91,369	63,713	3,918	4,785	163,785	102,267	266,052
1840	134,600	159,823	3,574	4,359	302,356	91,424	393,780
1841	173,436	92,483	2,921	1,399	270,240	121,665	391,905
1842	185,898	102,030	3,376	1,873	293,177	108,099	401,276
1843	214,655	124,313	4,588	1,584	246,140	109,657	455,797
1844	236,155	135,171	6,457	631	378,714	130,673	509,387
1845	206,422	224,032	7,572	9,601	447,627	107,533	555,160
1846	410,111	202,474	6,800	9,069	628,454	185,804	814,258
1847	683,138	192,227	8,348	14,004	897,717	195,229	1,092,946
1848	498,478	184,716	3,775	7,927	685,896	430,709	1,116,605
1849	535,538	200,471	11,857	21,734	769,600	250,659	1,020,259
1850	491,810	200,943	13,491	36,988	743,232	222,387	965,619
1851	687,694	168,433	8,176	27,117	891,420	233,844	1,125,264
1852	778,818	136,549	23,168	50,733	989,268	224,089	1,213,357
1853	727,655	163,017	19,166	17,351	932,189	218,734	1,150,923
1854	677,695	148,330	4,404	16,018	846,447	146,392	992,839

STATEMENT No. 30 — (*Continued*).

YEARS.	ARRIVING AT TIDE WATER.				Total ariving at tide water.	Internal movement of this State.	Total movement.
	By way of the Erie canal.		By way of Champlain canal.				
	From Western States and Canada.	From this State, E. and lateral canals.	From Vermont and Canada.	From this State.			
1855	751,940	1,137	6,940	22,387	782,604	264,740	1,047,344
1856	856,147	118,164	15,580	33,526	1,023,417	169,256	1,192,673
1857	548,374	....	23,945	21,194	561,894	205,476	767,370
1858	833,729	23,421	25,830	46,609	729,789	350,102	1,279,891
1859	420,897	84,107	46,605	58,708	610,317	206,467	816,784
1860	1,177,001	120,226	41,637	34,529	1,373,393	309,361	1,682,754
1861	1,761,932	109,791	18,937	43,587	1,934,247	210,126	2,144,373
1862	1,668,441	118,906	33,714	31,098	2,152,159	341,877	2,494,036
1863	1,676,480	133,431	68,062	20,280	1,898,253	337,822	2,236,075
1864	1,190,392	52,675	47,660	29,835	1,320,562	252,274	1,572,836
1865	1,231,342	71,369	49,223	27,397	1,379,331	316,760	1,696,091
1866	1,425,235	61,833	10,702	44,265	1,542,035	244,025	1,786,060
1867	1,050,484	49,499	6,169	37,560	1,143,712	294,805	1,438,517
1868	1,183,816	3,685	8,044	34,009	1,229,554	212,593	1,442,147
1869	1,030,970	24,962	5,385	25,788	1,087,105	226,966	1,314,071
1870	1,007,290	17,168	10,343	14,785	1,049,586	259,567	1,309,153
1871	1,583,435	30,348	3,338	29,178	1,646,299	217,569	1,863,868
1872	1,463,535	17,045	2,676	6,992	1,490,248	193,714	1,683,962
1873	1,563,849	....	3,196	22,037	*1,421,469	328,949	1,750,418
1874	1,400,993	28,551	5,475	35,853	1,470,872	301,711	1,772,583
1875	1,130,156	3,466	8,665	33,210	1,175,497	136,116	1,311,613
1876	875,079	7,312	5,020	19,072	906,483	161,014	1,067,497

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* The quantity of wheat and flour from the Western States which failed to reach tide water in consequence of the sudden closing of the canals, was equivalent to 182,000 barrels.

(No. 31.)

MANUFACTURES.

STATEMENT of the tons going from tide water, the tons arriving at tide water from Western States and from this State, the total tons arriving at tide water, the tons of the internal trade of this State, and the tons of the total movement on all the canals, from 1836 *to* 1876.

YEARS.	Going from tide water.	ARRIVING AT TIDE WATER.				Total arriving at tide water.	Internal movement of this State.	Total movement.
		By way of Erie canal.		By way of Champlain canal.				
		From Western States.	From this State.	From Vermont and Canada.	From this State.			
1836	9,825	654	10,152	1,330	770	12,906	66,070	88,810
1837	9,921	471	7,879	1,077	697	10,124	61,690	81,735
1838	10,577	500	6,729	664	594	8,477	82,462	101,526
1839	10,850	801	5,885	849	985	8,565	92,553	111,968
1840	8,789	1,267	5,388	621	1,389	8,665	82,919	100,367
1841	10,859	3,702	9,076	1,105	4,008	17,891	99,146	127,896
1842	11,780	2,659	6,746	2,215	3,394	16,015	71,173	98,968
1843	6,921	2,077	21,465	3,506	2,445	29,493	87,863	124,277
1844	13,706	853	27,579	3,210	692	32,334	93,205	144,245
1845	13,569	2,565	40,619	3,838	2,790	49,812	97,257	160,368
1846	15,935	2,926	31,857	5,481	7,609	47,873	85,198	149,006
1847	22,886	5,508	20,937	3,807	26,111	56,363	120,085	176,448
1848	29,261	5,560	19,250	1,370	25,030	51,210	122,310	202,781
1849	26,140	5,930	18,410	1,045	18,903	44,288	139,562	203,990
1850	29,655	7,848	15,217	1,334	15,270	39,669	130,894	200,218
1851	33,178	14,457	15,415	828	21,602	52,302	137,049	222,529
1852	34,471	22,682	18,083	197	16,858	54,820	115,664	207,955
1853	39,571	23,355	13,743	21	15,698	52,817	137,648	230,036
1854	40,262	10,640	16,440	163	12,839	40,082	177,677	258,021

STATEMENT No. 31 — (*Continued*).

YEARS.	Going from tide water.	ARRIVING AT TIDE WATER.				Total arriving at tide water.	Internal movement of this State.	Total movement.
		By way of Erie canal.		By way of Champlain canal.				
		From Western States.	From this State.	From Vermont and Canada.	From this State.			
1855	40,147	9,539	13,620	704	20,981	44,844	186,882	281,873
1856	54,775	2,851	17,356	1,185	29,062	50,454	179,672	284,901
1857	31,820	10,078	13,747	2,522	29,264	55,611	145,372	232,803
1858	25,047	19,085	17,843	835	37,218	74,981	195,875	295,903
1859	22,602	8,598	14,920	....	39,561	63,079	113,740	299,421
1860	32,030	5,808	15,135	14	46,012	66,969	269,760	268,759
1861	19,523	17,994	6,412	....	18,668	43,074	217,662	280,256
1862	65,340	14,170	5,419	....	25,913	45,502	254,035	364,877
1863	45,173	17,296	8,648	....	30,324	56,268	217,991	319,432
1864	34,557	13,511	42,712	129	22,128	79,480	168,317	282,354
1865	44,365	7,904	25,992	233	24,082	58,211	179,256	281,832
1866	54,505	4,800	40,140	70	15,170	60,180	187,555	302,241
1867	46,994	3,824	46,196	22	27,208	77,250	196,600	320,844
1868	51,797	4,354	61,455	25	29,038	94,872	226,593	373,262
1869	38,379	1,997	65,270	1,462	15,894	84,623	219,237	342,239
1870	25,606	3,794	68,551	224	18,597	91,166	225,725	342,497
1871	35,313	2,235	68,722	1,691	15,043	87,721	213,254	336,288
1872	42,112	....	64,449	149	24,010	88,608	194,844	325,564
1873	27,964	....	39,237	....	7,184	46,421	193,435	267,820
1874	27,462	23	27,567	1	21,835	49,426	169,809	246,697
1875	26,241	864	50,922	....	18,423	96,450	179,281	275,731
1876	27,096	151	17,360	....	26,757	44,268	108,837	180,201

(No. 32.)

MERCHANDISE.

STATEMENT of the tons going from tide water to Western States and left in this State, the total tons going from tide water, the tons of the internal trade of this State, the tons of the total movement on all the canals, from 1836 *to* 1876.

YEARS.	GOING FROM TIDE WATER.				Total going from tide water.	Internal movement of this State.	Total movement.
	By way of Erie canal.		By way of Champlain canal.				
	To Western States.	Left in this State.	To Vermont and Canada.	Left in this State.			
1836	38,893	67,637	5,165	6,194	117,886	10,006	127,895
1837	25,391	51,799	4,573	4,821	86,484	8,293	94,777
1838	34,629	71,287	5,631	6,402	117,949	6,341	124,290
1839	34,197	75,910	7,291	7,177	124,575	7,711	132,286
1840	22,055	70,979	5,981	6,945	105,960	6,061	112,021
1841	31,040	85,866	6,813	9,122	132,844	8,213	141,054
1842	24,063	59,755	4,996	5,399	94,213	7,233	101,446
1843	37,335	63,199	6,709	6,443	113,686	5,523	119,209
1844	42,415	78,557	7,930	6,714	135,616	6,314	141,930
1845	49,618	77,883	8,837	8,404	144,742	6,708	151,450
1846	58,330	85,582	10,611	8,602	163,125	6,674	169,799
1847	75,883	115,787	12,475	11,040	215,185	9,705	224,890
1848	84,872	124,896	14,520	18,374	242,661	18,797	261,458
1849	87,899	122,444	17,086	9,406	236,835	18,620	255,455
1850	115,045	112,446	15,882	13,126	256,499	12,871	219,370
1851	177,623	143,410	17,124	11,073	349,230	16,174	465,404
1852	219,799	153,182	14,248	8,858	396,087	24,208	420,295
1853	261,752	134,932	13,227	16,490	426,401	31,926	458,327
1854	231,879	112,336	6,583	21,084	371,912	34,110	406,022

STATEMENT No. 32 — (*Continued*).

YEARS.	GOING FROM TIDE WATER.				Total going from tide water.	Internal movement of this State.	Total movement.
	By way of Erie canal.		By way of Champlain canal.				
	To Western States.	Left in this State.	To Vermont and Canada.	Left in this State.			
1855	220,466	104,257	4,473	13,766	342,962	31,440	374,402
1856	183,513	139,104	5,810	19,498	347,925	23,833	370,758
1857	108,125	60,815	11,603	7,616	188,160	34,794	222,954
1858	76,890	61,176	5,621	5,999	149,686	38,755	188,441
1859	98,876	56,648	6,582	7,558	169,664	41,518	211,182
1860	119,682	66,247	11,537	8,071	205,537	44,823	250,360
1861	52,462	46,818	8,096	10,225	117,601	17,495	135,096
1862	71,039	61,503	3,598	10,086	146,266	21,701	167,927
1863	94,095	52,124	2,976	6,200	155,395	16,883	172,278
1864	84,823	29,484	4,468	7,066	125,841	18,143	143,984
1865	72,541	43,088	12,595	3,255	131,479	23,489	154,968
1866	89,269	50,036	9,807	6,557	155,669	24,209	179,878
1867	120,262	48,370	10,622	6,387	185,641	34,239	219,880
1868	142,564	72,413	10,711	15,515	241,203	82,861	324,064
1869	152,125	67,279	6,745	9,020	235,169	33,801	268,970
1870	151,432	76,670	14,858	5,385	248,345	23,511	271,856
1871	167,884	66,106	17,715	14,955	266,660	21,768	288,428
1872	156,595	91,867	11,584	12,092	272,138	26,620	298,758
1873	67,926	56,841	19,867	3,399	148,033	24,957	172,990
1874	49,632	45,542	16,934	2,490	114,598	17,583	132,181
1875	30,707	36,379	12,799	14,512	94,397	15,744	110,141
1876	6,063	25,497	13,710	3,272	48,542	16,401	64,943

(No. 33.)

OTHER ARTICLES.

STATEMENT of the tons going from tide water, the tons arriving at tide water from the Western States and from this State, the total tons arriving at tide water, the tons of the internal trade of this State, and the tons of the total movement on all the canals, from 1836 *to* 1876.

YEARS.	Going from tide water.	Arriving at Tide water.				Arriving at tide water.	Internal movement of this State.	Total movement.
		By way of Erie canal.		By way of Champlain canal.				
		From Western States.	From this State.	From Vermont and Canada.	From this State.			
1836	38,865	163	26,949	2,595	5,888	35,527	38,638	111,103
1837	63,025	601	50,837	2,306	11,033	64,777	40,198	168,000
1838	44,492	530	38,243	2,324	7,580	48,667	93,710	186,779
1839	51,383	857	37,509	3,398	9,795	51,559	154,884	257,826
1840	30,025	1,040	24,587	2,844	7,707	36,178	156,028	222,231
1841	30,950	1,639	14,521	2,987	17,806	36,953	147,355	215,258
1842	22,720	4,851	23,139	2,141	8,647	35,769	72,155	130,644
1843	27,542	2,869	30,227	1,901	9,837	44,854	54,576	126,972
1844	38,891	2,929	40,018	2,655	16,996	62,599	55,161	156,651
1845	42,548	4,329	61,237	3,800	29,965	99,321	86,674	228,543
1846	47,643	6,783	45,271	5,530	25,398	82,982	87,998	218,623
1847	69,846	6,871	76,596	6,280	34,343	124,090	93,876	287,812
1848	83,647	12,683	65,668	8,130	21,046	107,527	140,113	331,287
1849	52,575	12,716	51,358	9,014	21,560	93,638	162,875	310,088
1850	86,896	13,690	44,103	7,101	48,288	113,273	179,250	379,419
1851	84,992	14,981	55,105	5,065	40,430	115,581	275,265	475,838
1852	92,969	13,106	47,995	2,144	48,515	112,760	220,025	435,754
1853	118,169	18,600	58,462	81	90,754	167,897	300,975	587,041
1854	137,660	25,379	79,707	247	114,231	219,564	383,011	740,235

STATEMENT No. 33—(*Continued*).

YEARS.	Going from tide water.	ARRIVING AT TIDE WATER.				Arriving at tide water.	Internal movement of this State.	Total movement.
		By way of Erie canal.		By way of Champlain canal.				
		From Western States.	From this State.	From Vermont and Canada.	From this State.			
1855	132,608	24,769	41,030	6,522	102,460	174,781	476,675	784,064
1856	196,395	17,755	58,128	5,150	95,766	176,754	415,927	789,076
1857	167,084	24,942	40,134	6,563	112,070	183,709	406,139	756,932
1858	126,216	24,668	33,024	3,601	86,233	147,526	394,247	667,989
1859	137,290	54,863	85,917	1,029	167,056	308,865	466,107	912,262
1860	168,198	55,845	84,490	4,880	120,192	265,407	504,759	938,364
1861	223,135	53,015	69,783	7,655	173,379	303,832	368,551	895,518
1862	271,397	48,880	54,686	4,102	129,318	236,986	493,888	1,002,271
1863	301,406	47,948	78,997	4,733	133,846	265,524	634,289	1,201,219
1864	366,824	48,483	82,844	2,171	163,926	297,424	710,598	1,374,846
1865	325,932	60,459	53,025	2,718	120,519	236,721	566,795	1,129,448
1866	506,110	98,568	82,955	2,042	183,571	367,136	863,801	1,737,047
1867	605,938	132,438	104,156	2,296	205,360	444,250	914,644	1,964,832
1868	774,020	135,981	77,693	3,260	240,093	457,027	1,113,396	2,344,443
1869	568,119	137,655	121,457	2,364	204,397	465,873	1,043,878	2,077,870
1870	656,478	100,064	134,860	4,032	298,959	537,915	1,139,359	2,333,752
1871	499,565	115,552	105,983	2,076	259,570	483,181	1,055,261	2,038,007
1872	611,978	107,009	128,227	3,348	362,639	601,223	1,201,087	2,414,288
1873	614,206	151,516	68,244	4,176	364,261	588,197	1,389,079	2,591,482
1874	638,818	85,977	165,745	5,125	240,381	497,228	1,034,328	2,170,374
1875	606,699	43,036	194,729	1,185	302,507	541,457	763,671	1,911,827
1876	694,996	33,529	239,003	2,766	305,044	580,342	428,837	1,684,175

(No. 34.)

STATEMENT showing the number of cargoes and light boats weighed at each lock to which additions were made, the pounds of addition, and the average weight of cargoes at each weigh-lock.

LOCKS.	Number of cargoes.	Reported weight, pounds.	ADDITION BY SCALES TO REPORTED CARGOES.	
			Cargoes.	Pounds.
Rochester	1,656	583,711,663	504	5,618,577
Syracuse	1,562	564,817,613	829	11,134,673
Utica	529	135,794,002	341	5,456,237
Oswego	105	39,524,924	26	373,401
Western locks	3,852	1,323,848,202	1,700	22,582,888
West Troy	3,176	840,363,522	1,497	17,115,450
Albany	364	88,968,129	272	1,791,400
Waterford	5,661	1,258,373,905	4,685	125,077,524
Eastern locks	9,201	2,187,705,556	6,454	143,984,374
Total western and eastern locks	13,053	3,511,553,758	8,154	166,567,262

STATEMENT No. 34—(*Continued*).

LOCKS.	Total weight, pounds.	Average weight, pounds.	Number of light boats.	Number of cargoes re-weighed.	Number of cargoes wholly of lumber weighed first time.
Rochester	589,705,830	356,103	6	4	126
Syracuse	571,268,500	365,729	87	60	8
Utica	142,250,239	268,809	43	50	15
Oswego	39,898,325	379,984	41	1	6
Western locks	1,343,122,894	1,370,625	177	115	155
West Troy	857,478,972	269,987	76	301	....
Albany	90,411,249	248,383	73	58	31
Waterford	1,383,451,429	244,382	34	....	1,415
Eastern locks	2,331,341,650	762,752	183	359	1,446
Total western and eastern locks	3,674,464,544	2,133,377	360	574	1,601

(No. 35.)

STATEMENT showing the number of cargoes and light boats weighed at the eastern and western weigh-locks during three years, from 1870 *to* 1876, *both inclusive, the number of cargoes to which additions were made, the pounds of addition, the average weight of cargoes, etc.*

LOCKS.	Number of cargoes.	Reported weight, pounds.	ADDITION BY SCALES TO REPORTED CARGOES.	
			Cargoes.	Pounds.
1870. Western locks	11,372	3,889,385,873	4,718	58,762,133
Eastern locks	15,648	3,303,275,227	9,843	136,498,600
Total western and eastern locks	27,020	7,192,661,100	14,561	165,260,733
1871. Western locks	12,268	4,686,129,434	4,521	51,456,442
Eastern locks	14,807	3,157,922,530	8,559	144,745,908
Total western and eastern locks	27,075	7,844,051,964	13,080	196,202,350
1872. Western locks	12,327	4,651,884,373	6,600	57,593,752
Eastern locks	17,431	3,892,419,490	11,564	190,220,621
Total western and eastern locks	29,758	7,544,303,863	18,164	247,814 373
1873. Western locks	11,813	4,678,632,616	6,194	47,533,789
Eastern locks	14,535	3,381,546,269	9,063	142,038,667
Total western and eastern locks	26,348	8,060,178,885	15,257	189,572,456

STATEMENT No. 35—(*Continued*).

LOCKS.	Number of cargoes.	Reported weight, pounds.	ADDITION BY SCALES TO REGISTERED CARGOES.	
			Cargoes.	Pounds.
1874. Western locks	9,767	4,364,610,992	5,045	45,912,850
Eastern locks	13,313	2,974,719,081	8,554	168,261,245
Total western and eastern locks	23,080	7,339,330,073	13,599	214,174,095
1875. Western locks	4,819	1,641,640,325	1,955	26,006,030
Eastern locks	11,475	2,693,047,510	8,106	164,276,553
Total western and eastern locks	16,294	4,334,687,835	10,061	190,282,583
1876. Western locks	3,852	1,323,848,202	1,700	22,582,888
Eastern locks	9,201	2,187,705,556	6,454	143,984,374
Total western and eastern locks	13,053	3,511,553,758	8,154	166,567,262

STATEMENT No. 35—(*Continued*).

LOCKS.	Total weight, pounds.	Average weight, pounds.	Number of light boats.	Number of cargoes reweighed.	Number of cargoes wholly of lumber weighed first time.
1870. Western locks	3,975,348,006	1,367,844	529	985	892
Eastern locks	3,507,301,688	694,482	526	337	3,659
Total western and eastern locks	7,482,649,694	2,062,326	1,055	1,322	4,551
1871. Western locks	4,733,410,987	1,419,899	533	799	868
Eastern locks	3,335,476,708	691,208	569	469	3,582
Total western and eastern locks	8,068,887,695	2,111,107	1,102	1,268	4,450
1872. Western locks	4,699,472,572	1,433,515	611	516	510
Eastern locks	4,082,212,991	734,024	570	453	4,052
Total western and eastern locks	5,444,685,563	2,167,539	1,181	969	4,562
1873. Western locks	4,723,859,448	1,466,021	682	694	408
Eastern locks	3,529,631,016	708,952	898	555	2,389
Total western and eastern locks	8,253,496,464	2,174,973	1,580	1,249	2,797

STATEMENT No. 35—(*Continued*).

LOCKS.	Number of cargoes.	Reported weight, pounds.	ADDITION BY SCALES TO REGISTERED CARGOES.	
			Cargoes.	Pounds.
1874. Western locks	9,767	4,364,610,992	5,045	45,912,850
Eastern locks	13,313	2,974,719,081	8,554	168,261,245
Total western and eastern locks	23,080	7,339,330,073	13,599	214,174,095
1875. Western locks	4,819	1,641,640,325	1,955	26,006,030
Eastern locks	11,475	2,693,047,510	8,106	164,276,553
Total western and eastern locks	16,294	4,334,687,835	10,061	190,282,583
1876. Western locks	3,852	1,323,848,202	1,700	22,582,888
Eastern locks	9,201	2,187,705,556	6,454	143,984,374
Total western and eastern locks	13,053	3,511,553,758	8,154	166,567,262

STATEMENT No. 35—(*Continued*).

LOCKS.	Total weight, pounds.	Average weight, pounds.	Number of light boats.	Number of cargoes reweighed.	Number of cargoes wholly of lumber weighed first time.
1870. Western locks	3,975,348,006	1,367,844	529	985	892
Eastern locks	3,507,301,688	694,482	526	337	3,659
Total western and eastern locks	7,482,649,694	2,062,326	1,055	1,322	4,551
1871. Western locks	4,733,410,987	1,419,899	533	799	868
Eastern locks	3,335,476,708	691,208	569	469	3,582
Total western and eastern locks	8,068,887,695	2,111,107	1,102	1,268	4,450
1872. Western locks	4,699,472,572	1,433,515	611	516	510
Eastern locks	4,082,212,991	734,024	570	453	4,052
Total western and eastern locks	5,444,685,563	2,167,539	1,181	969	4,562
1873. Western locks	4,723,859,448	1,466,021	682	694	408
Eastern locks	3,529,631,016	708,952	898	555	2,389
Total western and eastern locks	8,253,496,464	2,174,973	1,580	1,249	2,797

STATEMENT No. 35 — (*Continued*).

LOCKS.	Total weight, pounds.	Average weight, pounds.	Number of light boats.	Number of cargoes reweighed.	Number of cargoes wholly of lumber weighed first time.
1874. Western locks	4,391,944,227	1,620,573	676	633	471
Eastern locks	3,146,194,069	721,074	454	303	2,700
Total western and eastern locks	7,538,138,296	2,341,612	1,130	936	3,171
1875. Western locks	1,661,781,640	1,391,107	246	188	53
Eastern locks	2,858,320,800	755,608	312	608	1,564
Total western and eastern locks	4,020,102,440	2,146,715	558	796	1,617
1876. Western locks	1,343,122,894	1,370,625	177	115	155
Eastern locks	2,331,341,650	762,752	183	359	1,446
Total western and eastern locks	3,674,464,544	2,133,377	360	574	1,601

(No. 36.)

STATEMENT showing the lockages on each canal at various points during the year 1876.

	May.	June.	July.	August.	September.
ERIE CANAL.					
Lock No. 1, Albany	686	835	704	718	777
Lock No. 2, one mile from Albany	986	1,472	1,079	1,190	1,014
Lock No. 3	2,179	2,384	2,189	2,130	2,399
West Troy side-cut locks	1,725	2,074	2,127	2,073	2,016
Port Schuyler side-cut locks	276	372	477	459	453
Alexander's lock, three miles west of Schenectady	2,066	2,433	2,400	2,211	2,337
Lock No. 32, Fort Plain	2,179	2,244	2,295	2,174	2,292
Lock No. 45, Frankfort	2,554	2,554	2,482	2,394	2,510
Syracuse lock	2,214	2,191	2,130	2,318	2,331
Lock No. 50, west of Syracuse	2,121	2,246	2,137	2,241	2,365
First lock east of Rochester	1,707	1,913	1,552	1,569	1,892
Locks at Lockport	2,084	2,481	2,040	2,004	2,301
Guard-lock at Black Rock	1,547	1,654	1,358	1,251	1,504
CHAMPLAIN CANAL.					
Old Junction lock	802	1,448	1,358	1,609	1,224
Waterford side-cut locks	339	673	511	276	216
Sloop lock	532	710	1,646	304	282
Lock at Fort Edward	1,323	1,817	1,629	1,400	1,190
Upper lock, Glen's Falls feeder	377	460	382	415	262
Lock at Whitehall	820	1,095	1,057	1,049	846
OSWEGO CANAL.					
Lock No. 13	499	485	413	530	519
Upper lock, Salina	767	814	816	918	868

STATEMENT No. 36 — (*Continued*).

	May.	June.	July.	August.	September.
CAYUGA AND SENECA CANAL.					
Lock at East Cayuga	411	335	288	307	570
Lock No. 2, Waterloo	531	661	781	746	587
Lock No. 9, North Cayuga	539	698	777	751	213
CHEMUNG CANAL.					
Lock at Havana	......	56	51	31	49
Upper look on feeder, Fairport	......	54	46	33	41
First lock from Fairport to Elmira	......	4	8	4	4
CROOKED LAKE CANAL.					
Lock at Dresden	......	......	......	......	......
Lock at Penn Yan	......	......	......	......	......
CHENANGO CANAL.					
First lock south of Utica	......	......	......	......	......
Lock at Norwich village	......	......	......	......	......
First lock north of Binghamton	......	......	......	......	......
GENESEE VALLEY CANAL.					
Lock No. 1, two miles south of Rochester	28	88	242	280	230

STATEMENT No. 36 — (*Continued*).

	October.	November.	Total for 211 days.	Daily average largest month.	Daily average for season.
ERIE CANAL.					
Lock No. 1, Albany	907	958	5,585	31	26
Lock No. 2, one mile from Albany	1,162	1,543	8,446	51	40
Lock No. 3	2,871	2,329	16,481	92	78
West Troy side-cut locks	2,592	2,229	14,836	83	71
Port Schuyler side-cut locks	368	273	2,678	13	12
Alexander's lock, three miles west of Schenectady	2,676	2,548	16,661	86	74
Lock No. 32, Fort Plain	2,887	2,237	16,308	93	77
Lock No. 45, Frankfort	3,105	2,551	18,150	100	86
Syracuse lock	2,878	2,090	16,152	93	76
Lock No. 50, west of Syracuse	2,770	1,915	15,795	90	75
First lock east of Rochester	2,132	1,396	12,161	69	53
Locks at Lockport	2,461	1,922	15,292	80	72
Guard-lock at Black Rock	1,587	1,320	10,227	55	48
CHAMPLAIN CANAL.					
Old Junction lock	1,301	1,518	9,260	52	44
Waterford side-cut locks	359	535	2,909	22	13
Sloop lock	399	617	4,490	53	21
Lock at Fort Edward	1,472	1,846	10,677	52	51
Upper lock, Glen's Falls feeder	302	586	2,784	19	13
Lock at Whitehall	1,002	928	6,797	36	32
OSWEGO CANAL.					
Lock No. 13	727	684	3,857	23	18
Upper lock, Salina	1,065	1,119	6,367	37	31

STATEMENT No. 36 — (*Continued*).

	October.	November.	Total for 211 days.	Daily average largest month.	Daily average for season.
CAYUGA AND SENECA CANAL.					
Lock at East Cayuga	386	383	2,680	12	12
Lock No. 2, Waterloo	504	483	4,293	22	21
Lock No. 9, North Cayuga	499	511	3,988	23	19
CHEMUNG CANAL.					
Lock at Havana	72	32	291	2	1
Upper lock on feeder, Fairport	55	29	258	2	1
First lock from Fairport to Elmira	6	4	30	....	1
CROOKED LAKE CANAL.					
Lock at Dresden	....	....	....	....	....
Lock at Penn Yan	....	....	....	....	....
CHENANGO CANAL.					
First lock south of Utica	....	....	....	....	....
Lock at Norwich village	....	....	....	....	....
First lock north of Binghamton	....	....	....	....	....
GENESEE VALLEY CANAL.					
Lock No. 1, two miles south of Rochester	276	205	1,349	9	6

(No. 37.)

STATEMENT showing the lockages, etc., at various points on the several canals for the years 1875 *and* 1876.

	Total for the season.		Daily average of largest month.		Daily average for the season.		Kind of lock on Erie canal.
	1875.	1876.	1875.	1876.	1875.	1876.	
ERIE CANAL.							
Lock No. 1, Albany	7,093	5,585	41	31	36	26	New double lock.
Lock No. 2, one mile from Albany	8,304	8,446	54	51	44	40	New single lock.
Lock No. 3	18,100	16,481	105	92	92	78	New single lock.
West Troy side-cut lock	15,926	14,836	95	83	81	71	New double lock.
Port Schuyler side-cut locks	3,250	2,678	19	13	16	12	New single lock.
Alexander's lock, 3 miles w. of Schenectady,	18,761	16,661	104	86	95	74	New double lock.
Lock No. 32, Fort Plain	19,359	16,308	114	93	98	77	New double lock.
Lock No. 45, Frankfort	20,479	18,150	117	100	104	86	New double lock.
Syracuse lock	19,241	16,152	104	93	98	76	New double lock.
Lock No. 50, west of Syracuse	17,664	15,795	97	90	90	75	New double lock.
First lock east of Rochester	14,137	12,161	79	69	72	53	New single lock.
Lock at Lockport	15,059	15,292	83	80	26	72	New double lock.
Guard lock at Black Rock	12,878	10,227	73	55	65	48	....
CHAMPLAIN CANAL.							
Old Junction lock	8,064	9,260	51	52	41	44	....
Waterford side-cut locks	4,806	2,909	24	22	24	13	....
Sloop lock	5,180	4,490	35	53	26	21	....
Lock at Fort Edward	11,813	10,677	69	52	60	51	....
Upper lock, Glens Falls feeder	2,900	2,784	18	19	14	13	....
Lock at Whitehall	8,252	6,797	51	36	42	32	....

STATEMENT No. 37 — (*Continued*).

	Total for the season.		Daily average of largest month.		Daily average for the season.		Kind of lock on Erie canal.
	1875.	1876.	1875.	1876.	1875.	1876.	
OSWEGO CANAL.							
Lock No. 13	4,450	3,857	25	23	22	18	....
Upper lock, Salina	7,124	6,367	41	37	36	31	New double lock.
CAYUGA AND SENECA CANAL.							
Lock at East Cayuga	2,647	2,680	18	12	14	12	....
Lock No. 2, Waterloo	4,907	4,293	29	22	25	21	....
Lock No. 9, North Cayuga	4,653	3,988	28	23	24	19	....
CHEMUNG CANAL.							
Lock at Havana	429	291	4	2	2	1	....
Upper lock on feeder, Fairport	337	258	3	2	2	1	....
First lock from Fairport to Elmira	319	30	3	....	2	1	....
CROOKED LAKE CANAL.							
Lock at Dresden	217	....	3	....	1	....	....
Lock at Penn Yan	256	....	3	....	1	....	....
CHENANGO CANAL.							
First lock south of Utica	850	....	6	....	4	....	....
Lock at Norwich village	420	....	3	....	2	....	....
First lock north of Binghamton	324	....	3	....	2	....	....
GENESEE VALLEY CANAL.							
Lock No. 1, two miles south of Rochester	1,663	1,349	10	9	8	6	... .

(No. 38.)

STATEMENT to show the tendency of lockages upon the Erie canal, at various points, so far as they have been preserved, for a series of years.

YEARS.	Lock No. 1, Albany.	Port Schuyler side-cut locks.	West Troy side-cut.	Total to and from Hudson river.	Lock three miles west of Schenectady.	Syracuse lock.	Lock five miles west of Syracuse.
1835	21,410	....	15,703	37,113	25,798	22,257	18,280
1836	22,451	....	16,061	38,452	25,516	21,692	17,034
1837	24,618	....	13,942	38,560	21,055	18,181	15,207
1838	33,478	....	16,418	39,896	25,962	20,383	18,557
1839	....	....	....	....	24,234	....	....
1840	....	....	....	....	26,987	....	....
1841	....	....	....	....	30,320	....	....
1842	....	....	....	....	22,869	19,397	16,069
1843	7,326	3,258	12,089	32,673	23,124	21,165	17,447
1844	20,845	4,243	13,749	38,837	28,219	25,198	20,044
1845	19,963	9,127	12,698	41,958	30,452	28,203	23,052
1846	18,169	11,495	16,196	45,860	33,431	32,212	25,225
1847	23,744	15,363	15,124	54,230	43,957	39,149	31,450
1848	19,519	6,940	16,255	42,714	34,911	34,760	29,066
1849	19,355	9,888	17,609	46,852	36,918	38,624	28,740
1850	18,382	8,984	24,056	51,422	38,444	41,170	27,799
1851	19,907	10,051	26,838	56,799	40,396	....	29,535
1852	20,178	8,086	29,104	57,368	41,572	38,993	29,952
1853	19,940	8,556	25,330	53,828	42,967	35,559	29,338
1854	16,258	10,626	19,903	46,787	35,981	32,815	29,088
1855	14,622	6,115	17,582	38,319	30,873	29,365	28,858
1856	12,498	10,742	22,804	46,044	31,223	28,347	20,788

STATEMENT No. 38 — (*Continued*).

YEARS.	Lock No. 1, Albany.	Port Schuyler side-cut locks.	West Troy side-cut.	Total to and from Hudson river.	Lock three miles west of Schenectady.	Syracuse lock.	Lock five miles west of Syracuse.
1857	7,494	5,454	15,826	28,774	22,182	25,699	16,337
1858	11,412	5,824	16,138	33,374	23,474	27,054	16,957
1859	6,276	6,508	15,095	27,879	21,905	22,547	*
1860	8,959	9,213	16,437	34,609	32,430	32,862	21,880
1861	8,399	9,420	16,775	34,594	31,179	29,510	24,283
1862	11,719	9,351	19,175	40,245	34,977	38,409	31,019
1863	8,397	8,123	18,497	35,017	30,071	30,532	26,328
1864	7,159	6,727	15,207	28,993	28,742	26,163	22,547
1865	6,263	6,169	15,974	29,406	26,037	23,332	20,203
1866	6,105	5,971	18,150	30,226	29,882	25,193	23,806
1867	6,993	6,572	15,073	28,638	28,654	24,849	21,453
1868	4,983	6,583	16,541	28,107	32,107	23,918	21,502
1869	3,776	6,085	13,819	23,680	24,625	24,834	21,654
1870	4,238	6,530	16,062	26,830	21,798	26,285	21,241
1871	5,385	6,444	18,135	29,964	29,725	29,592	24,779
1872	6,564	7,328	15,396	29,288	28,035	30,845	24,274
1873	6,347	6,233	14,626	27,206	24,960	28,234	23,561
1874	6,850	6,481	16,337	29,668	24,085	23,235	21,654
1875	7,093	3,250	15,926	26,269	18,761	19,241	17,664
1876	5,585	2,678	14,836	23,099	16,661	16,152	15,795

* Lockages omitted to be kept in 1859.

(No. 39.)

STATEMENT of the number of cribs passing Alexander's lock, in each month, for the years named.

MONTHS.	1860.	1861.	1862.	1863.	1864.	1865.	1866.	1867.
April	......	......	......	......	......	......	......	......
May	228	18	284	115	320	100	42	24
June	289	170	549	566	366	310	156	76
July	487	348	396	394	252	332	249	384
August	370	270	392	438	519	392	334	486
September	66	92	275	171	417	354	294	288
October	123	66	144	138	468	228	201	288
November	54	54	115	240	386	152	192	200
	1,617	1,018	2,155	2,062	2,728	1,868	1,468	1,746

STATEMENT No. 39—(*Continued*).

MONTHS.	1868.	1869.	1870.	1871.	1872.	1873.	1874.	1875.	1876.
April	6	......	......	3	.....	......	......	......	....
May	108	30	6	30	......	12	204	1	27
June	66	132	246	198	144	132	415	36	126
July	150	92	300	270	126	180	490	60	52
August	192	49	324	240	246	180	431	168	48
September	228	27	252	234	264	234	226	153	57
October	138	24	192	71	186	276	161	90	54
November	148	206	124	21	108	129	55	48	93
	1,036	560	1,144	1,067	1,074	1,143	1,982	556	457

(No. 40.)

STATEMENT of the number of boats and other floats passed at Lock No. 26, *three miles west of Schenectady, in each of the years from* 1824 *to* 1876, *inclusive, and for each month during the season of canal navigation, in each of the said years; also, of the time of the commencement and close of each navigable season at that place, and the number of days the canal was navigable in each of said years at that place.*

MONTHS.	1824.	1825.	1826.	1827.	1828.	1829.	1830.
Commencement of each season	April 30	April 12	April 20	April 22	March 27	May 2	April 20
Close of each season	Dec. 4	Dec. 5	Dec. 18	Dec. 18	Dec. 20	Dec. 17	Dec. 17
Number of days in each season	219	238	234	241	269	230	242
March	......	......	......	......	21	......	......
April	7	739	679	221	1,886	......	584
May	966	1,797	2,525	2,621	1,220	2,041	2,234
June	1,006	1,764	2,518	2,618	1,141	1,903	1,848
July	876	1,388	2,089	1,866	1,667	1,553	1,619
August	684	1,336	1,800	1,541	1,468	1,222	1,527
September	695	1,057	1,630	1,591	1,320	1,502	1,822
October	916	1,764	1,893	1,176	1,706	2,043	2,219
November	953	1,062	1,937	1,009	1,931	2,115	2,446
December	61	78	105	361	219	240	654
Total	6,166	10,985	15,156	13,004	14,579	12,619	14,674

STATEMENT No. 40—(*Continued*).

MONTHS.	1831.	1832.	1833.	1834.	1835.	1836.	1837.	1838.
Commencement of each season	April 25	April 16	April 19	April 17	April 15	April 25	April 20	April 12
Close of each season	Dec. 1	Dec. 21	Dec. 12	Dec. 12	Nov. 30	Nov. 26	Dec. 9	Nov. 25
Number of days in each season	230	241	238	240	230	216	234	228
March	......	......	......	......	......	......	......	......
April	815	198	566	1,013	1,281	505	986	1,654
May	2,667	2,780	2,903	3,431	3,718	3,467	3,161	3,427
June	1,261	2,802	3,079	2,943	3,509	4,085	2,028	3,419
July	1,908	2,142	2,633	2,715	3,500	3,724	2,352	2,969
August	1,682	1,403	2,049	2,449	2,973	3,543	2,184	2,938
September	2,044	2,432	2,938	3,035	3,534	3,651	2,531	3,613
October	2,387	3,147	3,128	3,548	4,215	3,587	3,732	4,730
November	2,516	3,384	3,023	3,379	3,068	2,954	3,783	3,212
December	4	313	330	398	......	......	298	......
Total	16,284	18,601	20,749	22,911	25,798	25,516	21,055	25,962

STATEMENT No. 40—(*Continued*).

MONTHS.	1839.	1840.	1841.	1842.	1843.	1844.	1845.
Commencement of each season	April 20	April 20	April 26	April 20	May 1	April 18	April 15
Close of each season	Dec. 16	Dec. 3	Nov. 29	Nov. 23	Dec. 1	Nov. 26	Nov. 29
Number of days in each season	228	227	218	218	214	223	228
March	......	......	......	......	......	......	......
April	872	682	124	804	......	1,343	1,978
May	3,236	3,831	4,514	3,687	3,354	4,322	4,279
June	3,316	3,472	4,548	2,997	3,199	3,983	4,027
July	3,222	3,570	4,350	2,602	3,115	3,638	3,699
August	2,896	3,387	3,436	2,053	3,058	3,639	3,252
September	3,093	3,840	4,337	1,838	3,205	3,652	3,956
October	4,184	4,148	4,826	4,595	4,122	4,372	4,774
November	3,144	4,032	4,149	3,293	3,131	3,270	4,487
December	271	26	......	......	......	......	......
Total	24,234	26,987	30,320	22,869	23,184	28,219	30,452

STATEMENT No. 40—(*Continued*).

MONTH.	1846.	1847.	1848.	1849.	1850.	1851.	1852.	1853.
Commencement of each season	April 16	May 1	May 1	May 1	April 22	April 15	April 20	April 20
Close of each season	Nov. 25	Dec. 1	Dec. 9	Dec. 5	Dec. 5	Dec. 5	Dec. 15	Dec. 15
Number of days in each season	224	214	223	219	228	235	239	239
March	......	......	......	......	......	......	......	......
April	1,139	......	......	......	758	1,934	1,317	945
May	4,846	5,838	4,984	5,653	5,299	1,140	5,138	6,537
June	4,893	6,294	4,982	5,438	4,093	5,541	6,033	6,103
July	4,506	6,860	4,333	4,873	4,689	5,398	6,087	6,307
August	4,242	6,289	4,032	4,097	4,789	5,291	5,526	6,149
September	4,772	5,996	4,610	4,603	5,280	5,051	5,657	5,189
October	4,832	6,930	6,067	5,998	5,901	6,019	5,956	6,166
November	4,474	5,750	5,753	5,938	6,221	4,971	5,102	6,112
December	27	......	150	318	414	48	756	450
Total	33,431	43,957	34,911	36,918	38,444	40,396	41,572	42,967

STATEMENT No. 40—(*Continued*).

MONTHS.	1854.	1855.	1856.	1857.	1858.	1859.	1860.	1861.
Commencement of each season	May 1	May 1	May 5	May 6	April 28	April 15	April 25	May 1
Close of each season	Dec. 3	Dec. 10	Dec. 5	Dec. 15	Dec. 8	Dec. 12	Dec. 12	Dec. 10
Number of days in each season	217	224	214	224	225	242	232	224
March	......	......	......	......	......	......	......	......
April...........................	......	......	......	......	199	812	381	......
May..............................	4,688	3,198	2,476	1,892	3,544	2,303	3,541	3,716
June	5,847	4,668	4,577	3,222	3,594	2,544	4,263	4,101
July	5,353	4,841	5,065	3,838	3,434	2,594	4,606	3,822
August	4,281	4,520	5,037	4,313	3,614	2,432	4,703	3,781
September	5,810	4,250	4,789	3,736	2,943	2,654	4,892	4,349
October	5,216	5,053	4,764	2,568	3,975	2,954	5,380	5,386
November	4,657	3,726	4,515	2,303	2,668	3,769	4,524	5,925
December.........................	129	617	......	310	......	152	149	99
Total	35,981	30,783	31,223	22,182	23,474	20,274	32,439	31,179

STATEMENT No. 40 — (*Continued*).

MONTHS.	1862.	1863.	1864.	1865.	1866.	1867.	1868.	1869.
Commencement of each season	May 1	May 1	April 30	May 1	May 1	May 1	May 4	May 7
Close of each season	Dec. 10	Dec. 12	Dec. 8	Dec. 12	Dec. 12	Dec. 10	Dec. 7	Dec. 10
Number of days in each season......	224	222	223	226	226	224	217	217
March............................	......	......	......	......	......	......	......	......
April	......	......	......	......	......	......	216	......
May	4,392	4,596	3,235	1,864	2,710	2,266	3,895	2,751
June	5,061	5,092	4,430	2,803	3,124	2,935	4,265	4,176
July	5,376	4,083	2,985	3,819	4,637	4,516	4,300	3,162
August...........................	4,635	4,409	5,237	4,437	5,104	5,001	4,619	3,483
September	5,260	3,441	4,205	3,886	4,568	4,008	4,249	3,720
October	5,247	3,915	4,597	4,283	4,607	5,898	5,449	2,208
November.........................	4,517	4,166	3,685	4,454	3,990	4,000	5,014	4,925
December.........................	489	369	368	491	1,142	30	100	200
Total...........................	34,997	30,071	28,742	26,037	29,882	28,654	32,107	24,625

STATEMENT No. 40 — (*Continued*).

MONTHS.	1870.	1871.	1872.	1873.	1874.	1875.	1876.	Total.
Commencement of each season.....	May 10	April 24	May 13	May 15	May 5	May 18	May 4	
Close of each season..............	Dec. 10	Nov. 30	Nov. 30	Dec. 5	Dec. 5	Dec. 30	Dec. 1	
Number of days in each season	215	220	202	204	215	197	211	
March...........................	......	......	......	......	......	......	......	21
April...........................	......	471	......	......	......	......	......	25,111
May.	2,252	2,820	1,945	1,723	3,112	983	2,066	176,330
June	4,308	3,710	4,174	3,895	4,321	2,651	2,433	198,170
July	3,825	4,173	4,629	3,967	3,842	2,805	2,400	192,190
August	3,674	4,451	3,487	3,897	3,358	3,229	2,211	184,198
September	3,474	4,972	5,063	4,316	3,404	2,938	2,337	182,447
October	3,880	5,046	4,829	4,959	3,370	3,312	2,676	224,068
November	3,549	4,082	3,908	2,203	2,666	2,843	2,548	195,236
December	162	......	......	......	......	......	......	....
Total	25,124	29,725	28,035	24,960	24,073	18,761	16,661	1,388,030

NOTE. — The earliest commencement is March 27, 1828; the latest, May 18, 1875. The earliest close is November 23, 1842; the latest, December 21, 1832. The longest season of canal navigation was in the year 1828, viz., 269 days; the shortest was in the year 1875, 197 days. October produces the greatest total for the fifty-two years, viz., 224,068. The greatest number which has ever passed in one month was in October, 1847, viz., 6,930; average for each twenty-four hours of the month, 224.

(No. 41.)

STATEMENT showing for a series of years the tolls on all the canals, the number of boats arriving at and clearing from tide water, the lockages at the Junction lock and at Alexander's lock, and the tonnage arriving at tide water.

YEARS.	Tolls on all the canals.	No. lockages at Junction lock. Champlain canal.	No. lockages at Alexander's lock, west of Schenectady, Erie canal.	Total lockages at Junction and Alexander's lock.	No. of boats arrived at and cleared from New York, Albany & Troy.	TONS ARRIVING AT TIDE WATER.		
						From Erie canal.	From Champlain canal.	Total.
1824	$340,642	....	6,166	....	8,776	....	....	....
1825	566,279	....	10,985	....	13,110	....	....	....
1826	765,104	....	15,156	....	....	....	....	....
1827	859,260	....	13,004	....	....	....	....	....
1828	838,444	....	14,579	....	23,662	....	....	....
1829	813,137	....	12,619	....	21,490	....	....	....
1830	1,056,922	....	14,674	....	23,874	....	....	....
1831	1,223,801	....	16,284	....	26,882	....	....	....
1832	1,229,483	....	18,601	....	25,826	....	....	....
1833	1,463,820	....	20,649	....	31,460	....	....	....
1834	1,341,329	....	22,911	....	32,438	....	....	....
1835	1,548,986	11,869	25,798	37,767	36,690	497,839	255,352	753,191
1836	1,614,336	11,248	25,516	36,764	34,190	419,125	227,222	696,347
1837	1,292,623	....	21,005	....	31,082	387,506	224,275	611,781
1838	1,590,911	....	25,962	....	32,120	419,949	221,232	640,481
1839	1,616,382	....	24,234	....	31,882	386,267	215,861	602,128
1840	1,775,747	....	26,987	....	30,456	467,315	201,697	699,012
1841	2,034,882	....	30,320	....	33,782	532,520	241,814	774,334
1842	1,749,196	8,813	22,809	31,682	32,840	480,149	286,477	666,626
1843	2,081,590	8,164	23,184	31,348	32,826	635,545	201,516	836,861
1844	2,446,374	10,099	28,219	37,313	38,786	799,816	219,278	1,019,094

1845	2,646,181	8,647	30,452	39,099	40,094	959,590	245,353	1,204,943
1846	2,756,106	8,771	33,431	43,202	42,936	1,107,270	255,049	1,363,319
1847	3,635,381	10,174	43,957	54,131	51,634	1,431,252	313,031	1,744,283
1848	3,252,212	9,165	34,911	44,076	43,018	1,184,337	262,568	1,437,905
1849	3,268,226	10,397	36,918	47,315	46,520	1,266,724	313,222	1,579,946
1850	3,273,899	12,801	38,444	51,245	46,880	1,554,675	479,188	2,033,833
1851	3,329,727	13,861	40,396	54,257	53,316	1,508,667	468,474	1,977,151
1852	3,118,244	13,478	41,572	55,050	55,166	1,644,699	590,123	2,234,822
1853	3,204,718	13,313	42,967	56,280	55,732	1,851,438	654,358	2,505,797
1854	2,773,566	14,693	35,981	50,674	48,825	1,702,693	521,050	2,223,743
1855	2,805,077	13,528	30,873	44,401	41,110	1,420,715	474,878	1,895,593
1856	2,748,812	15,873	31,223	47,096	44,628	1,587,120	536,339	2,123,468
1857	2,045,641	9,291	22,182	31,473	35,506	1,117,199	499,988	1,617,187
1858	2,110,754	8,912	23,474	32,386	33,118	1,496,687	488,455	1,985,142
1859	1,723,945	9,240	20,274	29,514	29,788	1,451,333	670,339	2,121,672
1860	3,009,597	9,159	32,479	41,598	40,608	2,276,061	578,816	2,854,877
1861	3,908,785	6,607	31,919	37,786	39,526	2,449,609	530,535	2,980,144
1862	5,188,943	7,889	34,977	42,866	41,690	2,917,094	485,615	3,402,709
1863	4,645,207	10,816	30,071	40,887	39,386	2,647,689	627,038	3,274,727
1864	3,983,982	11,118	28,742	39,860	33,898	2,146,634	658,623	2,805,257
1865	3,839,955	12,545	26,037	38,582	31,162	2,078,361	651,820	2,730,181
1866	4,436,639	10,540	29,882	40,422	31,562	2,523,664	781,943	3,305,607
1867	4,088,058	9,752	28,654	38,406	35,038	2,226,112	803,583	3,029,695
1868	4,246,563	9,805	32,107	41,912	33,402	2,378,572	862,234	3,240,806
1869	3,778,501	8,709	24,625	33,334	26,684	2,257,689	838,453	3,096,142
1870	2,611,578	10,075	25,124	35,199	33,116	2,290,698	865,604	3,156,302
1871	3,100,838	9,436	29,725	39,161	34,282	2,648,877	846,929	3,494,801
1872	3,072,411	11,235	28,035	39,270	36,730	2,670,405	977,539	3,747,944
1873	2,976,718	9,646	24,960	34,606	33,608	2,585,355	791,294	3,376,649

STATEMENT No. 41 — (*Continued*).

YEARS.	Tolls on all the canals.	No. lockages at Junction lock, Champlain canal.	No. lockages at Alexander's lock, west of Schenectady, Erie canal.	Total lockages at Junction and Alexander's lock.	No. of boats arrived at and cleared from New York, Albany & Troy.	TONS ARRIVING AT TIDE WATER.		
						From Erie canal.	From Champlain canal.	Total.
1874	$2,637,071	7,978	24,085	32,063	30,806	2,470,297	752,815	3,223,112
1875	1,590,032	8,064	18,761	26,875	26,156	1,914,942	693,835	2,608,777
1876	1,340,004	9,260	16,671	25,931	25,952	1,745,320	680,862	2,426,182

(No. 42.)

STATEMENT of property left at New York during the year 1876, by canal boats which run directly to New York without breaking bulk at West Troy or Albany

ARTICLES	Price.				Per	Quantity.	Tons.	Value of each article.	Value of each class.
	$	c.	m.	f.					
THE FOREST.									
Fur and peltry..............	0	00	0	0	Pound ...	....	....	....	
Product of wood.									
Boards and scantling	17	00	0	0	1,000 feet	115,219,200	192,030	$1,958,726	
Shingles	3	50	0	0	M.......	1,613	202	5,646	
Timber	0	00	0	0	....	....	....	....	
Staves	0	01	0	0	Pound ...	47,192,200	23,596	471,922	
Wood	6	00	0	0	Cord	10	28	60	
Ashes, pot and pearl..........	0	00	0	0	....	....	....	....	
Total of the forest..........	....				....	....	215,856	$2,436,354	$2,436,354
AGRICULTURE.									
Product of animals.									
Pork	0	00	0	0	....	....	....	....	
Beef..........	0	00	0	0	....	....	....	....	
Bacon	0	00	0	0	....	....	....	....	
Cheese.....................	0	14	0	0	Pound ...	685,200	343	$95,928	
Butter	0	28	0	0	Pound ...	129,500	65	36,260	
Lard, tallow and lard oil......	0	15	0	0	Pound ...	111,900	60	16,785	

STATEMENT No. 42 — (*Continued*).

ARTICLES.	Price.				Per	Quantity.	Tons.	Value of each article.	Value of each class.
	$	c.	m.	f.					
Wool	0	00	0	0					
Hides	0	00	0	0					
Total product of animals							468	$148,973	$148,973
Vegetable food.									
Flour	7	00	0	0	Barrel	26,300	2,840	$184,100	
Wheat	1	40	0	0	Bushel	11,720,600	351,618	16,408,840	
Rye	0	85	0	0	Bushel	199,800	5,594	169,830	
Corn	0	60	0	0	Bushel	11,321,500	317,002	6,792,900	
Corn meal	0	00	0	0					
Barley	1	10	0	0	Bushel	2,820,700	67,696	3,102,770	
Barley malt	1	25	0	0	Bushel	652,500	22,185	815,625	
Oats	0	45	0	0	Bushel	3,035,800	48,572	1,366,110	
Bran and ship stuffs	0	01	0	0	Pound	665,000	333	6,650	
Peas and beans	1	50	0	0	Bushel	128,900	3,867	193,350	
Apples	1	25	0	0	Barrel	297,100	21,540	371,375	
Potatoes	1	20	0	0	Bushel	933,600	28,008	1,120,320	
Dried fruit	0	00	0	0					
Total vegetable food							869,255	$30,531,870	30,531,870
All other agricultural products.									
Cotton	0	10	0	0	Pound	19,700	20	$1,970	
Unmanufactured tobacco	0	18	0	0	Pound	75,900	38	13,662	
Hemp	0	00	0	0					

Clover and grass seed						
Flax seed						
Hops						
Total all other agricul. prod'ts				58	$15,632	15,632
Total agriculture				869,781	$30,696,475	30,696,475
MANUFACTURES.						
Domestic spirits						
Oil meal and cake	0 02 5 0	Pound	4,060,000	2,030	$101,500	
Leather	0 25 0 0	Pound	114,400	57	28,600	
Furniture	0 20 0 0	Pound	26,700	13	5,340	
Bar and pig lead		Pound				
Pig iron	0 01 0 0	Pound	5,822,000	2,911	58,220	
Bloom and bar iron	0 02 2 5	Pound	567,900	288	12,777	
Castings and iron ware		Pound				
Domestic woolens	0 12 0 0	Pound	900	1	108	
Domestic cottons						
Domestic salt	0 00 7 0	Pound	24,037,600	12,019	168,263	
Foreign salt						
Total manufactures				17,319	$374,808	374,808
MERCHANDISE.						
Sugar						
Molasses						
Coffee						
Nails, spikes and horseshoes						
Iron and steel	0 09 0 0	Pound	1,628,800	814	$146,592	
Railroad iron	0 02 2 5	Pound	418,900	209	9,425	
Flint enamel, crock'y & glassware	0 20 0 0	Pound	60,000	30	12,000	

STATEMENT No. 42—(*Continued*).

ARTICLES.	Price.	Per.	Quantity.	Tons.	Value of each article.	Value of each class.
	$ c. m. f.					
All other merchandise........	0 50 0 0	....	1,633,500	816	$816,750	
Total merchandise..........	....	....	....	1,869	$984,767	$984,767
OTHER ARTICLES						
Live cattle, hogs and sheep....	....	....	....	....	....	
Stone, lime and clay..........	....	....	....	....	....	
Gypsum	0 01 0 0	Pound...	61,631,600	30,815	$616,316	
Anthracite coal	....	....	....	....	....	
Bituminous coal..............	0 00 3 0	Pound...	5,079,400	2,539	15,238	
Copper ore..................	....	....	....	....	....	
Iron ore....................	0 00 6 0	Pound...	42,941,300	21,471	257,646	
Sundries	0 01 5 0	Pound...	246,256,000	123,128	3,693,840	
Total other articles	....	....	....	177,953	$4,583,040	4,583,040
Total.....................	....	....	....	1,282,778	$39,075,444	$39,075,444

(No. 43.)

STATEMENT showing the tons of each kind of merchandise going to other States by way of Buffalo and Oswego, the tons of merchandise left in this State, and the tons of merchandise going from tide water by way of the Erie canal, for the year 1876.

STATES.	Sugar.	Molasses.	Coffee.	Nails, spikes and horse-shoes.	Iron and steel.	Railroad iron.	Flint enamel crockery and glassware.	All other merchandise.	Total.
Pennsylvania	......	......	......	......	......	......	......	......	......
Ohio	......	......	......	20	......	......	2	114	136
Michigan	......	......	......	......	......	......	......	101	101
Indiana	......	......	......	......	......	......	......	1	1
Illinois	750	7	......	......	......	672	16	1,142	2,587
Wisconsin	......	2	......	56	......	......	......	565	623
Kentucky	......	......	......	......	......	......	......	......	......
Missouri	......	......	......	......	......	......	......	2	2
Tennessee	......	......	......	......	......	......	......	......	......
Minnesota	......	......	......	......	......	......	......	4	4
Iowa	......	......	......	......	......	......	......	24	24
Kansas	......	......	......	......	......	......	......	......	......
Nebraska	......	......	......	......	......	......	......	......	......
Canada	591	......	4	......	......	289	85	1,616	2,585
Going to other States	1,341	9	4	76	......	961	103	3,569	6,063
Left in this State	1,207	5,811	67	2,082	4,249	6,132	205	22,226	42,479
Going from tide water	3,048	5,820	71	2,158	4,249	7,093	308	25,795	48,542

(No. 44.)

STATEMENT of the tons and value of merchandise going to other States by way of Buffalo and Oswego, in each year, from 1836 *to* 1876, *both inclusive.*

YEARS.	Value per pound.	Buffalo, tons.	Oswego, tons.	Total tons.	Value.
1836	$0 12½	30,874	8,019	38,893	$9,723,250
1837	0 12½	22,230	3,061	25,291	6,322,750
1838	0 12½	32,087	2,542	34,629	8,657,250
1839	0 15	29,629	4,498	34,197	10,259,100
1840	0 16	18,863	3,192	22,050	7,057,600
1841	0 18	25,551	5,489	31,040	11,174,400
1842	0 15	30,525	3,538	24,063	7,218,900
1843	0 17½	32,798	4,537	37,335	13,067,250
1844	0 17½	32,767	9,648	42,415	14,485,250
1845	0 17½	37,713	11,905	49,618	17,366,300
1846	0 17½	44,487	18,540	58,330	20,415,500
1847	0 18	57,290	18,843	75,830	27,298,800
1848	0 18	64,428	20,444	84,872	30,553,920
1849	0 18	68,020	20,287	88,315	31,793,400
1850	0 18	79,405	35,091	144,496	41,218,560
1851	0 18	99,918	74,981	174,899	62,963,640
1852	0 18	143,787	76,012	219,799	79,127,640
1853	0 18	163,192	98,560	261,752	94,230,720
1854	0 18	167,550	64,329	231,879	83,476,440
1855	0 18	145,530	74,936	220,466	79,367,769
1856	0 18	114,696	68,817	183,513	66,064,680
1857	0 18	74,733	43,393	118,126	42,525,360
1858	0 18	47,350	29,540	76,890	27,680,400
1859	0 18	72,767	26,109	98,876	35,595,360
1860	0 18	72,030	47,652	119,682	43,085,520
1861	0 18	35,278	17,184	52,462	18,886,320
1862	0 18	52,945	18,094	71,039	25,574,040
1863	0 18	64,124	29,971	94,095	33,847,200
1864	0 18	57,338	27,485	84,823	30,536,280
1865	0 18	59,175	13,366	72,541	26,114,760
1866	0 18	68,375	20,894	89,269	32,136,840
1867	0 18	83,045	37,217	120,262	43,294,320
1868	0 18	99,559	43,005	142,564	51,323,040
1869	0 18	90,755	61,370	152,125	54,765,000
1870	0 18	96,186	55,246	141,432	50,915,520
1871	0 18	122,578	44,526	167,104	60,177,440
1872	0 18	146,413	10,182	156,595	56,374,200
1873	0 18	57,579	10,347	67,926	24,453,360
1874	0 18	32,059	17,573	49,632	17,867,520
1875	0 18	27,367	3,340	30,707	11,054,520
1876	0 18	3,270	2,793	6,063	2,182,680

(No. 45.)

STATEMENT of the estimated value of property coming from, and merchandise going to other States, by way of Buffalo, Black Rock, Tonawanda and Oswego, from 1836 *to* 1876, *both inclusive.*

YEARS.	Products coming from.	Merchandise going to.	Total.
1836	$5,493,816	$9,723,250	$15,217,066
1837	4,813,626	6,322,750	11,136,376
1838	6,369,645	8,657,250	15,026,895
1839	7,258,968	10,259,100	17,518,068
1840	7,877,358	7,057,600	15,934,958
1841	11,889,273	11,174,400	23,063,673
1842	9,215,808	7,218,900	16,434,708
1843	11,937,943	13,067,250	25,005,193
1844	15,875,558	14,844,250	27,720,808
1845	14,162,239	17,366,300	31,520,538
1846	20,471,930	20,415,500	40,887,439
1847	32,666,324	27,298,800	59,965,124
1848	23,245,353	30,553,920	53,799,273
1849	26,713,796	31,793,400	58,507,196
1850	25,539,605	41,272,491	66,812,096
1851	27,007,142	63,659,440	90,666,582
1852	37,041,380	79,127,640	116,169,020
1853	42,367,564	94,230,720	136,589,284
1854	38,346,283	83,476,440	122,822,723
1855	43,555,243	79,879,680	123,434,923
1856	38,043,813	66,064,680	104,108,493
1857	26,466,121	42,525,360	68,991,481
1858	36,182,405	29,891,063	66,073,468
1859	24,428,412	35,595,360	60,023,772
1860	42,915,046	45,154,114	98,069,160
1861	49,405,375	18,886,320	68,291,695
1862	72,131,136	25,574,040	97,705,176
1863	85,728,457	33,847,200	119,575,657
1864	108,866,953	30,536,280	139,403,233
1865	70,774,734	26,114,760	96,889,494
1866	83,840,459	38,892,311	122,732,770
1867	88,821,450	43,294,320	132,115,770
1868	88,816,003	51,323,040	140,139,043
1869	72,090,807	54,765,000	126,855,807
1870	57,080,343	50,915,520	107,995,863
1871	91,634,102	60,177,440	151,811,542
1872	70,513,528	56,374,200	126,887,728
1873	65,500,487	24,453,360	89,953,847
1874	55,912,015	17,867,520	73,779,535
1875	51,193,839	11,054,520	62,248,359
1876	34,018,243	6,665,322	40,683,565

(No. 46.)

STATEMENT showing the estimated value of all the property transported on each canal in each year, from 1837 *to* 1876, *inclusive.*

YEARS.	ERIE CANAL.					
	Cleared at New York, Albany and West Troy.			Cleared at Buffalo, Black Rock and Tonawanda.	Cleared at all other offices.	Total.
	Merchandise.	Other articles.	Total.			
1837	$20,834,938	$4,942,209	$25,784,147	$3,286,128	$18,650,604	$47,720,879
1838	28,159,150	4,907,708	33,062,858	4,854,927	19,209,858	57,127,613
1839	34,888,244	5,206,058	40,094,302	5,222,756	18,854,427	64,171,485
1840	33,570,358	2,827,681	36,398,039	6,200,829	15,204,936	57,803,803
1841	47,258,223	9,540,224	56,798,447	9,607,924	16,376,503	82,881,874
1842	27,894,994	4,420,004	32,314,998	7,541,793	12,466,736	52,323,527
1843	38,979,593	3,278,895	42,258,488	9,732,616	13,288,470	65,297,574
1844	47,254,588	5,887,815	53,142,403	9,561,146	15,822,504	78,526,053
1845	50,532,494	4,921,504	55,453,998	10,351,749	19,248,224	85,053,971
1846	60,007,709	4,620,765	64,628,474	15,819,314	18,815,659	90,263,426
1847	72,221,399	5,657,367	77,878,766	28,503,745	23,518,927	121,909,448
1848	72,069,861	5,407,920	77,477,781	19,621,700	11,544,421	118,643,902
1849	73,132,295	5,349,646	78,481,941	20,647,562	22,238,010	121,367,513
1850	69,807,791	5,019,208	74,826,999	20,991,462	31,335,526	127,159,987
1851	75,929,351	4,810,548	80,739,899	24,543,286	31,784,847	137,068,032
1852	115,225,258	5,862,054	121,087,312	25,674,776	22,219,056	168,981,144
1853	110,224,387	5,660,944	116,185,331	28,866,951	27,629,827	172,682,109
1854	110,186,968	6,585,998	116,772,966	29,745,555	30,613,260	177,161,781
1855	105,329,061	8,114,802	113,443,863	31,403,640	24,906,992	169,754,495
1856	127,187,140	6,944,567	134,131,707	22,873,866	21,749,502	178,755,075

1857	64,276,443	6,739,798	71,016,241	17,567,181	15,470,217	104,053,639
1858	53,364,111	4,619,012	57,983,123	25,039,901	20,570,577	103,593,601
1859	55,417,502	6,472,427	61,889,929	17,093,299	20,733,252	99,716,480
1860	73,252,071	5,934,689	79,186,760	25,839,113	19,319,230	124,345,103
1861	40,478,807	4,003,249	44,482,056	44,328,036	14,601,679	93,421,771
1862	73,841,493	8,536,854	82,378,347	54,026,643	19,801,899	156,106,889
1863	83,956,145	12,072,285	96,028,430	66,679,326	24,535,709	187,243,465
1864	66,637,242	18,602,384	85,239,626	86,861,946	28,956,563	201,058,135
1865	78,984,734	19,287,409	98,272,143	51,259,758	36,582,817	186,114,718
1866	79,846,925	25,622,774	105,469,699	61,276,267	31,385,661	198,331,627
1867	81,728,478	23,345,511	105,073,989	65,274,795	38,275,365	208,624,149
1868	106,412,773	28,121,293	134,534,066	67,275,801	37,751,702	239,561,569
1869	86,399,578	24,783,884	111,183,462	51,889,028	27,823,978	190,896,468
1870	77,676,473	28,206,942	105,883,415	39,049,740	28,278,321	173,211,476
1871	63,160,600	27,081,356	90,241,956	70,825,512	25,263,522	186,330,990
1872	74,207,575	13,511,291	87,718,866	54,675,424	25,557,017	167,951,307
1873	60,240,154	11,378,980	71,619,134	52,838,967	23,363,831	147,821,932
1874	48,347,598	24,167,707	72,515,305	49,328,339	19,843,974	141,687,618
1875	27,593,471	18,856,723	46,450,194	43,532,213	19,350,223	109,332,630
1876	22,406,662	22,429,090	44,835,752	27,975,048	15,806,424	88,617,224

NOTE. — Office at Black Rock abolished in 1857.

STATEMENT No. 46 — (*Continued*).

YEARS.	CHAMPLAIN CANAL.			OSWEGO CANAL.		
	Cleared at Whitehall.	Cleared at other offices.	Total.	Cleared at Oswego.	Cleared at other offices.	Total.
1837	$2,136,377	$1,906,948	$3,233,325	$1,527,498	$1,110,486	$2,637,984
1838	2,683,679	878,481	3,562,160	1,514,718	814,320	2,329,038
1839	2,994,767	962,108	3,956,875	2,036,212	1,029,537	3,065,749
1840	2,489,576	821,207	3,310,783	1,677,069	756,449	2,433,518
1841	2,520,245	794,999	3,315,244	2,182,349	473,843	2,655,832
1842	2,050,334	775,999	2,826,333	1,674,015	389,256	2,063,271
1843	2,546,055	1,139,584	3,685,639	2,205,327	612,237	2,817,564
1844	3,094,612	1,253,001	4,347,613	3,314,121	757,635	4,072,047
1845	3,933,918	1,431,656	4,365,574	3,810,490	816,648	4,627,174
1846	3,660,210	1,188,777	4,848,987	4,652,665	1,016,569	5,669,234
1847	4,261,450	1,603,962	5,865,413	7,440,131	1,173,674	8,613,805
1848	3,348,112	2,886,616	15,487,184	7,099,076	1,217,800	8,316,896
1849	4,120,019	2,419,429	6,539,448	8,926,194	1,097,803	10,023,997
1850	6,300,320	2,294,221	8,594,841	9,329,718	895,520	10,225,238
1851	3,499,640	2,410,573	5,910,213	9,919,614	1,119,855	10,239,469
1852	4,143,354	3,470,472	7,613,826	10,746,037	1,237,444	11,083,481
1853	5,340,194	5,264,328	10,604,522	14,429,760	1,504,543	15,934,303
1854	4,000,341	6,280,361	10,280,702	9,963,563	2,110,680	12,074,247
1855	3,892,246	6,666,128	10,558,378	12,400,275	2,785,610	15,185,885
1856	4,261,436	6,586,002	10,747,438	15,578,570	2,564,300	18,142,870
1857	3,607,942	10,568,119	14,176,061	9,573,993	1,799,170	11,373,163
1858	3,488,266	7,930,104	11,418,370	12,496,867	3,481,214	15,978,081
1859	5,473,417	9,224,081	14,697,498	7,335,113	2,370,591	9,705,704

1860	7,134,234	8,519,943	15,654,177	17,075,933	6,656,212	23,732,145
1861	2,573,566	9,445,572	12,019,138	15,067,339	3,138,061	18,205,400
1862	3,995,234	12,531,284	16,526,518	18,104,493	4,193,041	22,297,534
1863	8,181,660	11,834,660	20,016,320	19,049,131	4,178,573	23,227,704
1864	14,239,377	17,891,639	32,131,016	22,005,007	7,130,236	29,135,243
1865	16,172,945	18,085,899	34,258,844	19,514,976	5,338,908	24,853,884
1866	11,980,465	20,332,955	32,313,420	22,564,192	6,266,593	28,830,785
1867	10,903,059	20,595,903	31,498,962	23,756,655	4,956,345	28,713,000
1868	18,222,785	9,469,751	27,692,536	21,540,202	5,509,765	27,049,967
1869	6,417,121	17,668,422	24,185,543	20,201,779	4,799,147	25,000,926
1870	7,285,738	22,019,193	29,304,931	18,030,603	3,718,020	21,748,623
1871	6,991,876	16,428,385	23,420,261	20,808,590	3,434,695	24,243,285
1872	9,495,280	19,094,827	28,590,107	15,838,104	2,764,058	18,602,162
1873	6,919,222	17,041,393	23,960,615	12,661,520	1,676,332	14,337,852
1874	6,583,676	24,689,243	31,272,919	17,087,097	2,209,206	19,296,303
1875	4,745,831	16,674,455	21,420,286	9,028,903	2,227,504	11,256,407
1876	4,609,632	20,351,028	14,960,660	6,043,195	860,062	6,903,257

STATEMENT No. 46—(*Continued*).

YEARS.	Cayuga and Seneca canal.	Chemung canal.	Crooked Lake canal.	Chenango canal.	Genesee Valley canal.
1837	$684,607	$609,207	$583,393	$338,894	....
1838	929,122	264,812	738,301	795,583	....
1839	598,916	294,678	574,505	737,556	....
1840	728,524	238,061	522,280	866,196	$400,726
1841	847,473	399,275	586,466	778,956	737,809
1842	578,664	295,150	384,613	597,389	947,661
1843	561,572	321,707	435,668	640,093	1,099,374
1844	676,934	489,789	551,953	881,957	1,374,806
1845	965,964	929,259	667,848	1,257,413	1,762,656
1846	958,525	882,802	723,846	1,253,609	1,882,662
1847	1,293,701	1,247,029	876,280	1,322,754	2,209,763
1848	1,114,418	1,070,614	743,868	1,237,497	2,147,283
1849	993,114	1,042,141	816,871	1,106,791	2,233,516
1850	1,306,253	1,131,036	909,236	1,174,065	2,436,104
1851	806,956	1,013,132	647,065	1,078,403	2,433,605
1852	671,716	1,354,136	748,807	1,440,623	2,786,745
1853	897,657	1,806,757	997,340	1,999,803	3,533,879
1854	1,346,050	1,651,133	373,482	1,556,623	5,575,982
1855	1,137,829	1,681,218	723,346	1,981,777	2,225,256
1856	1,796,833	1,830,915	708,825	2,284,391	3,028,250
1857	1,532,769	1,424,467	292,561	2,395,088	1,106,879
1858	1,426,181	1,436,835	505,576	1,856,266	1,412,582
1859	1,431,161	1,684,273	438,680	1,923,555	1,348,246
1860	1,253,681	1,374,595	425,087	1,715,268	1,176,966

1861	1,065,357	1,136,654	351,094	2,067,477	748,595
1862	1,123,754	1,892,288	605,964	1,895,199	942,342
1863	1,337,577	2,294,055	366,844	2,724,009	1,127,233
1864	2,231,962	3,228,134	381,806	3,468,720	832,092
1865	2,534,611	1,734,656	482,033	3,015,622	669,638
1866	3,106,721	1,860,474	654,208	2,225,597	1,177,342
1867	3,008,167	1,238,531	386,414	2,105,704	918,052
1868	3,542,385	2,681,705	284,869	2,607,774	1,215,736
1869	3,023,417	2,775,124	319,227	1,145,003	882,880
1870	3,108,470	1,184,994	353,726	718,651	1,013,911
1871	1,163,441	1,130,668	424,068	283,138	992,026
1872	2,500,159	1,275,236	161,687	165,801	912,605
1873	2,260,982	1,165,137	272,479	230,076	1,113,915
1874	1,986,487	885,386	207,339	203,039	643,608
1875	1,345,150	568,994	....	179,599	458,208
1876	837,720	918,168	....	38,690	337,655

STATEMENT No. 46—(*Continued*).

YEARS.	Black River canal.	Oneida Lake canal.	Baldwinsville canal.	Total.
1837				$55,809,283
1838				65,756,459
1839				73,399,764
1840				66,303,892
1841				92,202,929
1842				60,921,142
1843				74,841,281
1844				90,921,152
1845				100,629,856
1846				115,812,109
1847				151,563,427
1848		$233,235		140,086,157
1849		576,982		144,732,285
1850		709,894		156,397,929
1851	$436,947	467,169		149,881,801
1852	542,040	347,979		196,603,517
1853	521,981	480,999		209,584,578
1854	685,250	606,227	$76,597	210,946,781
1855	718,952	264,934	77,447	204,390,147
1856	603,065	345,548	66,684	218,327,062
1857	471,880	362,736		136,997,018
1858	656,297	170,512		138,568,844
1859	928,668	286,055		132,160,758
1860	919,741	286,493		170,849,198

1861	876,501	252,435	...	130,115,893
1862	1,743,843	223,906	...	203,234,331
1863	1,709,254	...	...	240,046,461
1864	1,943,531	...	...	274,400,639
1865	2,573,098	...	...	256,237,104
1866	2,463,502	...	...	270,963,670
1867	2,463,733	...	...	278,956,712
1868	1,665,388	...	...	305,301,929
1869	1,053,496	...	...	249,281,284
1870	1,191,394	...	...	231,836,176
1871	779,814	...	...	238,767,691
1872	754,257	...	...	220,913,321
1873	552,512	...	...	191,715,500
1874	491,623	...	...	196,674,322
1875	447,301	...	...	145,008,575
1876	477,005	...	...	113,090,379

NOTE.—Office at Baldwinsville abolished in 1857.

(No. 47.)

STATEMENT of the number of clearances issued at each office on all the canals, from 1833 *to* 1876 *inclusive.*

YEARS.	ERIE CANAL.									
	New York.	Albany.	West Troy.	Schenectady.	Fultonville.	Little Falls.	Utica.	Rome.	Syracuse.	Jordan.
1833	......	8,932	6,698	2,296	......	749	2,832	1,488	2,305	......
1834	......	9,283	6,942	3,203	......	860	3,211	1,890	3,048	......
1835	......	10,967	7,378	3,868	......	813	3,005	3,007	2,542	......
1836	......	10,235	6,801	3,358	1,142	788	3,403	2,087	2,544	......
1837	......	9,147	6,394	2,000	1,174	768	3,467	1,908	2,892	......
1838	......	9,530	6,530	2,567	977	1,015	3,924	1,804	3,206	......
1839	......	8,331	7,607	4,431	1,027	906	3,322	1,750	3,490	......
1840	......	8,860	6,868	4,678	954	999	2,780	1,688	3,510	......
1841	......	9,620	7,170	2,560	904	1,070	3,155	1,749	4,161	......
1842	......	2,293	7,143	1,235	882	636	3,316	1,423	3,614	......
1843	......	8,600	7,813	1,244	1,025	612	3,564	1,452	3,922	......
1844	......	10,345	9,048	1,073	775	481	3,465	1,497	4,735	......
1845	......	10,240	9,811	1,068	978	542	3,838	1,950	4,447	......
1846	989	10,170	10,308	1,149	912	700	3,889	1,959	4,409	......
1847	1,560	12,637	11,630	1,120	993	683	4,762	2,254	5,710	......
1848	1,141	10,501	11,008	1,194	834	761	4,817	2,332	5,217	......
1849	1,502	10,920	10,840	1,170	738	568	3,325	1,941	3,229	......
1850	2,175	11,694	11,776	1,006	868	585	4,202	2,473	2,935	......
1851	2,634	12,408	11,515	851	696	506	5,013	2,829	2,733	......
1852	2,649	12,687	12,247	976	849	648	3,468	3,645	2,338	......
1853	2,820	13,058	11,988	849	541	534	3,208	5,795	2,554	......
1854	3,219	11,136	9,958	862	493	603	3,975	3,967	4,006	872
1855	2,377	8,676	9,501	881	552	554	3,958	4,196	3,344	588

1856	2,605	7,713	11,996	696	527	503	3,566	2,818	3,993	783
1857	1,724	6,128	8,017	576	444	507	3,441	3,213	4,273	611
1858	1,603	6,859	8,097	435	398	461	3,164	2,923	3,945	617
1859	1,361	6,184	7,349	579	479	453	3,167	3,194	3,808	547
1860	2,439	7,524	10,344	541	433	463	3,225	2,883	4,017	.....
1861	2,695	6,710	9,358	607	637	534	3,171	2,761	4,728	.....
1862	1,311	8,301	11,233	557	518	466	3,148	2,873	5,044	.....
1863	1,376	7,242	11,065	509	448	448	3,272	2,981	4,054	.....
1864	2,279	6,011	8,649	415	343	345	2,913	2,444	3,500	.....
1865	2,787	5,377	7,417	577	316	367	3,054	2,479	3,406	.....
1866	3,079	6,392	7,829	644	305	376	3,436	2,957	3,365	.....
1867	2,765	6,176	8,578	556	341	362	3,055	2,390	3,712	.....
1868	3,052	6,000	7,649	672	384	342	3,003	2,524	4,024	.....
1869	2,693	5,685	7,001	676	373	366	3,719	2,701	4,224	.....
1870	2,376	5,851	8,331	912	474	370	3,722	2,728	4,459	.....
1871	2,473	6,196	7,474	885	419	328	2,408	2,746	4,753	.....
1872	4,174	6,111	8,080	985	343	314	2,307	2,551	2,234	.....
1873	3,541	5,165	8,098	1,068	393	300	1,977	2,198	5,440	.....
1874	2,797	5,228	7,378	857	381	347	2,334	1,865	3,860	.....
1875	2,735	3,918	6,425	577	461	272	1,664	1,499	3,430	.....
1876	2,319	3,852	6,805	649	448	320	1,202	1,478	3,289	.....

NOTE.—Office at Jordan abolished in 1859.

STATEMENT No. 47 — (*Continued*).

YEARS.	ERIE CANAL.								
	Montezuma.	Lyons.	Palmyra.	Rochester.	Brockport.	Albion.	Medina.	Lockport.	Tonawanda.
1833	2,721	560	638	3,270	841	588	......	782	....
1834	4,660	750	810	4,479	1,018	579	......	924	....
1835	2,340	621	564	4,347	865	586	......	1,230	....
1836	5,441	479	602	4,880	700	437	......	1,060	....
1837	4,682	852	597	4,902	598	597	......	719	....
1838	4,732	615	604	4,379	459	414	......	616	....
1839	4,964	623	681	4,401	546	519	......	872	....
1840	4,988	779	1,169	5,940	625	618	......	687	....
1841	5,336	621	762	6,080	581	750	......	1,423	....
1842	3,927	536	877	6,064	702	876	......	1,113	....
1843	4,034	417	632	5,893	611	744	......	1,162	....
1844	4,350	237	429	5,819	479	481	......	1,002	....
1845	5,036	373	605	6,320	500	545	......	1,188	....
1846	5,179	502	654	7,524	554	646	......	1,452	....
1847	5,720	529	731	8,630	600	731	......	1,545	....
1848	6,111	715	748	7,800	1,076	661	......	2,001	....
1849	4,234	501	683	6,907	3,167	697	......	1,741	....
1850	4,049	444	723	5,642	1,228	748	......	2,060	1,331
1851	3,994	561	729	6,286	874	696	715	1,612	1,979
1852	3,941	502	677	5,476	934	458	728	1,379	2,254
1853	4,183	426	556	5,054	846	283	802	1,283	1,951
1854	5,937	496	432	4,710	466	446	681	1,029	1,607
1855	5,359	550	355	3,861	749	551	1,382	1,103	1,858
1856	4,756	379	464	3,785	588	270	866	889	1,486

1857	4,274	375	370	3,033	413	265	840	861	1,356
1858	3,120	377	361	3,506	383	295	662	878	1,018
1859	3,455	471	415	3,164	419	284	598	819	857
1860	3,787	415	432	3,680	428	444	512	1,030	1,126
1861	3,792	454	362	3,519	386	353	390	998	899
1862	4,441	......	534	3,954	197	400	......	1,030	997
1863	4,735	......	566	4,245	529	462	......	1,304	1,074
1864	4,422	......	433	2,716	383	272	......	1,233	1,084
1865	4,316	......	400	2,225	329	310	......	966	854
1866	5,209	......	423	2,584	247	285	......	977	863
1867	4,572	......	450	2,199	375	339	......	932	896
1868	5,989	......	462	2,769	346	308	......	943	895
1869	5,842	......	513	1,857	301	354	441	732	1,025
1870	6,458	......	567	1,857	334	317	545	746	1,071
1871	5,808	......	550	1,917	365	347	652	789	1,054
1872	6,640	......	472	1,880	292	264	422	623	1,065
1873	7,486	......	625	2,449	349	351	588	897	1,485
1874	5,924	......	627	1,674	371	357	577	936	1,838
1875	4,792	......	466	1,340	344	369	416	652	1,559
1876	4,342	......	423	1,426	377	335	373	511	1,932

NOTE — Offices at Medina and Lyons abolished in 1862, and former re-established in 1869.

STATEMENT No. 47 — (*Continued*).

YEARS.	ERIE CANAL.			CHAMPLAIN CANAL.					
	Black Rock.	Buffalo.	Total.	Waterford and sloop lock.	Schuylerville.	Fort Edward.	Glens Falls.	Whitehall.	Total.
1833	......	2,774	37,571	2,616	1,349	....	......	2,869	6,834
1834	......	4,008	45,662	3,484	1,498	....	......	3,245	8,228
1835	......	5,173	49,308	3,564	1,606	....	......	3,957	8,127
1836	......	5,816	48,773	2,880	1,580	....	......	3,867	8,325
1837	......	4,755	45,051	1,771	1,414	....	......	3,034	6,319
1838	......	5,970	46,342	1,462	1,411	....	......	3,290	6,163
1839	979	5,013	49,392	1,538	1,493	....	......	3,356	6,387
1840	956	4,851	50,959	952	1,285	....	......	3,802	6,039
1841	1,459	5,682	53,193	1,416	1,653	....	......	3,534	6,603
1842	1,149	5,174	47,959	706	1,434	....	......	3,275	4,709
1843	1,222	5,994	48,942	820	1,242	....	......	3,061	4,303
1844	2,493	6,900	51,609	939	1,401	....	......	3,509	4,911
1845	1,377	6,375	55,190	1,045	1,605	....	......	3,523	5,128
1846	1,535	8,212	60,743	1,415	1,675	....	......	3,515	6,605
1847	1,831	11,136	72,801	1,100	1,759	....	......	4,078	6,937
1848	1,145	9,407	66,462	1,295	1,540	....	......	3,619	6,454
1849	1,504	9,132	60,769	866	775	....	866	3,849	5,996
1850	937	9,805	64,732	814	702	....	1,013	4,429	6,958
1851	999	10,380	68,120	807	908	....	1,101	3,950	6,766
1852	1,243	9,662	66,760	1,205	1,089	....	1,274	4,146	7,714
1853	1,517	9,248	67,497	1,644	1,108	....	1,612	5,501	9,865
1854	1,047	9,833	65,875	1,176	1,123	....	1,515	3,967	7,781
1855	1,134	9,874	61,405	1,122	1,264	....	1,210	3,825	7,421

1856	1,143	7,982	57,828	860	1,131	....	1,585	4,049	7,625
1857	......	6,455	47,176	1,929	1,118	....	1,314	3,393	7,754
1858	......	6,306	45,408	2,813	....	2,543	......	3,451	8,807
1859	......	4,839	42,442	3,160	....	2,691	......	4,041	9,892
1860	......	7,541	51,264	3,658	....	2,576	......	4,061	10,295
1861	......	9,584	51,938	2,796	....	2,487	......	2,539	7,822
1862	......	11,185	56,189	3,704	....	2,341	......	3,573	9,618
1863	......	9,556	53,861	3,643	....	2,864	......	4,361	10,868
1864	......	7,943	45,385	3,473	....	2,760	......	4,099	10,332
1865	......	6,944	42,124	2,668	....	2,632	......	4,016	9,336
1866	......	8,519	47,490	3,600	....	2,791	......	4,979	11,370
1867	......	7,664	45,362	5,184	....	2,784	......	5,179	13,147
1868	......	7,761	47,123	3,916	....	3,228	......	4,812	11,956
1869	......	6,725	45,228	4,564	....	2,632	......	4,671	11,867
1870	......	6,835	47,953	3,718	....	2,380	......	5,356	11,454
1871	......	8,795	48,959	4,651	....	2,713	......	5,015	12,379
1872	......	8,659	49,416	4,528	....	3,040	......	5,870	13,438
1873	......	9,063	51,473	3,681	....	2,204	......	4,929	10,814
1874	......	7,643	44,994	3,591	....	2,494	......	3,967	10,052
1875	......	6,365	37,284	3,261	....	2,116	......	3,877	9,254
1876	......	4,850	34,931	2,464	....	1,807	......	3,283	7,554

NOTE — Office at Black Rock abolished in 1857, and at Schuylerville and Glens Falls in 1858. Office at Black Rock established in 1838 and Glens Falls in 1849.

STATEMENT No. 47 — (*Continued*).

YEARS.	OSWEGO CANAL.				CAYUGA AND SENECA CANAL.			
	Salina.	Phœnix.	Oswego.	Total.	Seneca Falls.	Geneva.	Ithaca.	Total.
1833	2,825	....	914	3,739	....	1,086	....	....
1834	5,230	....	1,637	6,867	....	1,894	....	....
1835	5,488	....	2,275	7,763	....	1,692	....	....
1836	4,842	....	2,028	6,870	....	1,730	....	....
1837	4,878	....	1,773	6,651	....	1,385	....	....
1838	5,782	....	2,082	7,864	....	1,361	....	....
1839	6,071	....	2,385	8,456	....	1,213	....	....
1840	5,492	....	1,980	7,472	....	1,223	....	....
1841	6,286	....	2,839	9,125	....	1,421	....	....
1842	4,530	....	2,343	6,877	....	1,397	....	....
1843	5,544	....	2,407	7,447	....	1,068	....	....
1844	6,841	....	3,363	10,204	....	1,249	....	....
1845	6,877	....	3,419	10,296	....	1,449	....	....
1846	9,169	....	3,898	11,067	....	1,881	....	....
1847	8,172	....	4,666	12,838	....	1,814	....	....
1848	8,299	....	4,177	12,406	....	1,632	....	....
1849	3,933	....	3,928	7,861	....	269	....	....
1850	3,773	....	3,978	7,551	....	289	....	....
1851	3,298	....	4,773	8,071	....	1,036	....	....
1852	3,050	....	5,794	7,884	....	954	....	....
1853	3,298	....	5,831	9,129	....	1,016	....	....
1854	5,943	2,372	5,001	13,316	1,002	855	....	1,857
1855	5,463	2,293	5,092	12,848	1,120	851	....	1,971
1856	5,857	2,137	6,833	14,827	845	562	1,032	2,439

1857..	4,390	1,414	4,329	10,133	545	640	912	2,097
1858............	6,533	1,888	5,117	73,538	594	770	376	1,740
1859............	5,667	1,371	3,988	11,026	543	834	341	1,708
1860............	6,050	1,985	6,263	14,298	878	1,091	....	1,969
1861............	5,720	1,470	5,306	12,496	634	1,017	....	1,651
1862............	6,542	1,576	5,483	13,601	....	1,508	....	1,508
1863............	6,020	1,258	4,720	11,998	....	1,192	....	1,192
1864............	4,528	959	3,767	9,254	....	1,533	....	1,533
1865............	4,510	1,011	3,798	9,319	....	2,071	....	2,071
1866............	5,136	883	4,273	10,992	....	2,464	....	2,464
1867............	4,354	789	4,021	9,164	....	2,385	....	2,385
1868............	4,415	813	4,129	9,357	....	3,414	....	3,414
1869............	3,832	620	4,012	8,464	....	3,435	....	3,435
1870............	3,522	676	3,955	8,153	....	3,217	....	3,217
1871............	3,395	692	3,907	7,994	....	2,786	....	2,786
1872............	3,710	529	3,303	7,542	....	2,572	....	2,572
1873............	3,236	520	2,929	6,685	....	2,648	....	2,648
1874............	2,980	564	2,877	6,421	....	2,136	....	2,136
1875............	2,007	452	2,035	4,494	....	1,392	....	1,392
1876............	2,181	....	1,717	3,898	....	853	....	853

NOTE.—Office at Seneca Falls abolished in 1862; office at Ithaca abolished in 1860. Offices at Phœnix and Seneca Falls established in 1854, and Ithaca in 1856.

STATEMENT No. 47—(*Continued*).

YEARS.	CHEMUNG CANAL.					CROOKED LAKE CANAL.			CHENANGO CANAL.			
	Havana.	Watkins.	Horseheads.	Corning.	Total.	Dresden.	PennYan.	Total.	Hamilton.	Oxford.	Binghamton.	Total.
1833....	82	......	170	......	1,253	153	....	153	......	....	......	.....
1834....	662	......	595	......	1,247	406	490	896	......	....	......	.....
1835....	911	......	851	......	1,892	424	651	1,075	......	....	.....	.....
1836....	1,000	......	951	......	1,951	512	667	1,779	......	....	......	....
1837....	967	......	737	......	1,704	448	550	998	183	167	162	517
1838....	879	......	741	......	1,620	437	521	958	399	304	366	1,069
1839....	895	......	729	......	1,624	403	527	930	303	369	208	880
1840....	798	......	755	......	1,553	111	403	814	228	298	237	763
1841....	1,153	......	1,442	......	3,595	414	476	890	316	422	301	1,039
1842....	1,013	......	1,348	......	3,361	413	318	731	252	358	205	815
1843....	1,119	......	1,350	......	3,468	448	516	964	344	343	281	968
1844....	1,371	......	1,679	......	3,050	447	529	976	262	509	357	1,128
1845....	1,534	......	1,134	......	3,696	624	571	1,195	258	491	440	1,189
1846....	1,515	......	1,314	1,028	3,699	778	500	1,278	263	430	514	1,207
1847....	1,941	......	1,339	870	4,440	750	510	1,300	425	502	550	1,447
1848....	1,884	......	1,457	1,152	4,569	555	589	1,184	546	493	506	1,545
1849....	1,714	......	1,024	1,228	3,843	559	466	1,025	335	335	319	989
1850....	1,714	......	914	1,105	3,839	560	482	1,042	348	512	435	1,295
1851....	1,702	......	890	1,211	3,828	505	411	916	274	322	311	907
1852....	1,814	......	946	1,235	3,999	418	409	827	488	462	623	1,603
1853....	2,224	......	1,174	1,621	5,019	458	458	916	588	372	802	1,762
1854....	2,772	......	1,700	2,158	6,630	371	334	705	496	482	921	1,899
1855....	2,218	......	1,234	1,815	5,267	367	393	768	697	405	852	1,954
1856....	2,548	......	1,697	1,737	5,982	385	367	752	613	438	872	1,923

1857....	2,343	.....	1,624	1,542	5,509	....	261	261	601	487	818	1,906
1858....	2,230	......	1,737	1,138	5,105	....	334	334	403	429	700	1,532
1859....	3,027	......	2,346	1,217	6,590	....	355	355	603	440	1,014	2,057
1860....	2,376	......	2,052	1,021	5,449	....	277	277	493	418	984	1,895
1861....	2,537	......	2,149	754	5,440	....	219	219	473	468	1,027	1,968
1862...	2,891	......	1,854	1,039	5,784	....	388	388	372	385	962	1,719
1863....	3,572	......	1,817	1,442	6,831	....	318	318	392	447	1,049	1,888
1864....	2,966	......	1,530	1,553	6,049	....	154	154	512	494	1,029	2,035
1865....	1,888	......	1,028	730	3,646	....	282	282	451	481	807	1,739
1866....	2,445	......	1,975	456	4,876	....	364	364	541	509	1,238	2,288
1867....	1,660	......	1,184	617	3,461	....	217	217	547	546	1,344	2,437
1868....	......	1,191	789	461	2,441	....	224	224	546	598	1,488	2,632
1869....	......	1,591	778	408	2,777	....	209	209	437	639	1,802	2,158
1870....	......	1,400	445	283	2,128	....	236	236	551	503	1,306	2,360
1871....	......	1,479	412	276	2,167	....	210	210	294	141	463	898
1872....	......	1,447	571	338	2,356	....	117	117	214	169	271	654
1873....	......	1,562	360	258	2,180	....	201	201	229	269	280	778
1874....	......	1,441	247	197	1,885	....	130	130	179	214	287	680
1875....	......	896	......	144	1,040	....	....	......	......	....	244	244
1876....	......	1,164	......	121	1,285	....	....	......	......	177	......	177

NOTE. — Office at Dresden abolished in 1857; office at Havana abolished in 1868, and Horseheads, Penn Yan, Hamilton and Oxford abolished in 1875; Binghamton abolished 1876 and re-established in 1876. Hamilton, Oxford and Binghamton established in 1837, Corning in 1846, Watkins in 1868.

STATEMENT No. 47—(*Continued*).

YEARS.	GENESEE VALLEY CANAL.							BLACK RIVER CANAL.			ONEIDA LAKE CANAL.	SENECA R. TOWING-PATH.	Total.
	Scottsville.	Mt. Morris.	Dansville.	Oramel.	Caneadea.	Olean.	Total.	Boonville.	Lyons Falls.	Total.	Higgins.	Baldwinsville.	
1833....	.....	.....	.....	....	....	....	.....	.....	....	.....	.....	.....	49,636
1834....	.....	.....	.....	....	....	....	.....	.....	....	.....	.....	.....	64,494
1835....	.....	.....	.....	....	....	....	.....	.....	....	.....	.....	.....	69,767
1836....	.....	.....	.....	....	....	....	.....	.....	....	.....	.....	.....	68,830
1837....	.....	.....	....	....	....	....	.....	.....	....	.....	.....	.....	62,525
1838....	.....	.....	.....	....	....	...	.....	.....	....	.....	.....	.....	65,377
1839....	.....	.....	.....	....	....	....	.....	.....	....	.....	.....	.....	68,882
1840....	478	.....	.....	....	....	....	574	.....	....	.....	.....	.....	69,301
1841....	1,096	.....	.....	....	....	....	1,096	.....	....	.....	574	.....	76,526
1842....	1,034	.....	531	....	....	...	1,565	.....	....	.....	1,101	.....	67,515
1843....	1,217	.....	592	....	....	....	1,807	.....	....	.....	1,250	.....	69,720
1844...	1,297	.....	748	....	....	....	2,045	.....	....	.....	1,237	.....	76,409
1845....	1,411	.....	812	....	....	....	2,223	.....	....	.....	1,260	.....	81,629
1846....	1,474	.....	892	....	....	....	2,366	.....	....	.....	1,089	.....	89,933
1847....	1,309	.....	974	....	....	....	2,283	.....	....	.....	1,307	.....	105,198
1848....	1,284	.....	1,105	....	....	....	2,389	.....	....	.....	1,677	.....	98,325
1849....	1,084	.....	1,078	....	....	....	2,162	.....	....	.....	2,304	.....	75,648
1850....	1,210	.....	1,015	....	...	....	2,225	.....	....	.....	393	.....	29,184
1851....	428	355	1,025	329	....	....	2,037	530	....	530	695	.....	92,926
1852....	555	261	728	270	....	....	2,014	609	....	609	1,187	.....	93,842
1853....	714	983	686	514	....	....	2,897	674	....	674	1,073	.....	109,148
1854....	614	1,166	453	935	....	....	2,968	817	....	817	2,563	491	104,902

1855....	432	1,093	441	468	....	....	2,434	933	....	933	2,393	470	97,856
1856....	509	1,008	377	439	....	....	2,333	834	....	834	3,177	494	98,214
1857....	402	1,049	319	482	....	153	2,405	900	....	900	1,284	.....	79,425
1858....	338	951	289	415	....	321	2,314	868	....	868	1,339	.....	80,985
1859....	369	827	276	404	....	342	2,233	989	....	989	1,072	.....	78,354
1860....	349	692	259	....	434	429	2,163	904	....	904	672	.....	89,186
1861....	293	576	147	....	367	328	1,711	917	....	917	472	.....	84,634
1862....	.....	882	181	....	527	556	2,146	1,019	....	1,019	.....	.....	91,972
1863....	.....	694	140	....	548	570	1,952	1,157	....	1,157	.....	.....	90,065
1864....	.....	485	132	....	363	335	1,315	924	....	924	.....	.....	76,981
1865....	.....	477	112	....	278	134	1,001	931	....	931	.....	.....	70,449
1866....	.....	473	151	....	435	378	1,437	1,153	....	1,153	.....	.....	81,734
1867....	.....	392	124	....	403	259	1,178	1,065	....	1,065	.....	.....	78,416
1868....	.....	577	132	....	503	407	1,619	818	313	1,131	.....	.....	79,897
1869....	.....	565	125	....	298	297	1,285	795	440	1,235	.....	.....	76,658
1870....	.....	435	142	....	392	468	1,437	776	577	1,353	.....	.....	78,291
1871....	.....	344	137	....	323	500	1,304	577	604	1,181	.....	.....	77,878
1872....	.....	433	119	....	400	492	1,444	599	668	1,267	.....	.....	78,806
1873....	.....	567	128	....	415	466	1,576	427	590	1,017	.....	.....	77,372
1874....	.....	582	.....	....	312	371	1,265	835	....	835	.....	.....	68,398
1875....	.....	461	.....	....	....	405	866	754	....	754	.....	.....	55,328
1876 ...	.....	435	.....	....	....	286	721	824	....	824	.....	.....	50,243

NOTE.—Oramel office abolished in 1860, and office at Caneadea established. Scottsville and Higgins offices abolished in 1862. Dansville and Lyons Falls abolished in 1874, and Caneadea in 1875. Office at Scottsville established in 1840; Higgins, 1841; Dansville, 1842; Mount Morris, Oramel and Boonville, 1851; Baldwinsville, 1854; Olean, 1857; Lyons Falls, 1868.

(No. 48.)

The number of clearances issued from 1833 *to* 1876, *both inclusive, is as follows:*

YEARS.	FROM TIDE WATER.				OTHER CLEARANCES.			
	New York.	Albany.	West Troy.	Total.	Erie.	Champlain.	Oswego.	Cayuga and Seneca.
1833	....	8,932	6,798	15,730	21,841	5,938	3,739	1,086
1834	....	9,283	6,942	16,225	29,441	7,159	6,867	1,891
1835	....	10,967	7,378	18,345	30,963	7,438	7,768	1,693
1836	....	10,235	6,801	17,035	31,837	7,752	6,870	1,730
1837	....	9,147	9,393	17,540	29,511	5,967	6,651	1,385
1838	....	9,530	6,530	16,060	30,282	5,582	7,364	1,361
1839	....	8,331	7,607	16,938	33,454	5,804	8,456	1,213
1840	....	8,860	6,868	15,728	35,231	5,871	7,472	1,223
1841	....	9,620	7,170	16,799	36,333	6,067	9,125	1,421
1842	....	9,293	7,143	16,436	31,529	4,709	6,878	1,397
1843	....	8,606	7,813	16,413	32,529	4,303	7,948	1,068
1844	....	10,345	9,048	19,393	32,216	4,911	10,204	1,249
1845	....	10,240	9,811	20,051	35,142	5,128	10,296	1,449
1846	989	10,171	10,308	21,468	93,276	6,605	11,067	1,881
1847	1,560	12,631	11,630	25,827	46,255	6,937	12,838	1,814
1848	1,141	10,501	11,008	22,640	43,829	6,454	12,406	1,932
1849	1,502	10,920	10,840	23,262	37,507	6,996	7,861	969
1850	2,177	11,694	11,746	25,617	39,115	6,958	7,751	886
1851	2,634	12,408	11,515	26,557	41,563	6,766	8,071	1,056
1852	2,649	12,687	12,247	27,583	39,177	7,714	7,844	954
1853	2,820	13,058	11,988	27,866	39,621	9,865	9,129	1,016
1854	3,319	11,136	9,958	24,413	41,461	7,781	13,316	1,857

1855	2,377	8,677	9,501	20,565	40,850	7,421	12,248	1,971
1856	2,605	7,713	11,961	22,314	35,514	7,625	14,827	2,439
1857	1,724	6,128	8,017	15,869	31,307	7,754	10,133	2,097
1858	1,603	6,859	8,097	16,559	28,849	8,807	13,538	1,740
1859	1,361	6,184	7,349	14,894	27,548	9,892	11,026	1,708
1860	2,439	7,524	10,344	20,307	30,957	10,295	14,298	1,969
1861	2,695	6,710	9,358	18,763	33,175	7,822	11,496	1,651
1862	1,311	8,301	11,233	20,845	35,344	9,618	13,601	1,508
1863	1,376	7,242	11,065	19,683	34,178	10,868	11,998	1,192
1864	2,279	6,011	8,649	16,939	28,446	10,332	9,254	1,533
1865	2,787	5,377	7,417	15,581	26,543	9,336	9,319	2,071
1866	3,079	6,392	7,829	17,300	30,190	11,370	10,292	2,464
1867	2,765	6,176	8,578	17,519	27,843	13,147	9,164	2,385
1868	3,052	6,000	7,649	16,701	30,422	11,956	9,357	3,414
1869	2,693	5,685	7,001	15,379	29,849	11,867	8,464	3,435
1870	2,376	5,851	8,331	16,558	31,395	11,454	8,153	3,217
1871	3,473	6,196	7,474	17,143	31,816	12,379	7,994	3,786
1872	4,174	6,111	8,080	18,365	49,416	13,438	7,542	2,572
1873	3,541	5,165	8,098	16,804	51,473	10,814	6,685	2,648
1874	2,797	5,228	7,378	15,403	44,994	10,052	6,421	2,136
1875	2,735	3,918	6,425	13,073	24,206	9,254	4,494	1,392
1876	2,319	3,852	6,805	12,976	21,955	7,554	3,898	853

STATEMENT No. 48 — (*Continued*).

YEARS.	OTHER CLEARANCES.								
	Chemung.	Crooked Lake.	Chenango.	Genesee Valley.	Black River.	Higgins.	Baldwinville.	Total.	Total for all clearances.
1833	253	153	......	......	......	......	......	33,010	48,740
1834	1,247	896	......	......	......	......	......	47,501	63,726
1835	1,802	1,079	......	......	......	......	......	50,733	69,078
1836	1,951	1,175	......	......	......	......	......	50,219	67,255
1837	1,704	998	517	......	......	......	......	46,733	62,273
1838	1,629	958	1,069	......	......	......	......	48,736	64,796
1839	1,624	930	880	......	......	......	......	52,858	68,296
1840	1,553	814	762	478	......	......	......	53,405	69,133
1841	2,595	890	1,039	2,096	......	574	......	59,200	75,990
1842	3,861	731	815	1,595	......	1,101	......	51,079	67,515
1843	2,469	964	968	1,809	......	1,250	......	53,307	69,720
1844	3,050	976	1,128	2,045	......	1,237	......	57,016	76,409
1845	3,696	1,495	1,189	2,223	......	1,260	......	61,578	81,629
1846	3,699	1,278	1,207	2,366	......	1,089	......	68,468	89,936
1847	4,440	1,300	1,477	2,283	......	1,307	......	78,651	104,478
1848	4,569	1,184	1,545	2,389	......	1,677	......	75,685	97,325
1849	3,843	1,025	989	2,162	......	2,034	......	62,386	85,648
1850	3,830	1,042	1,295	2,225	......	393	.....	63,507	89,124
1851	3,828	916	907	2,037	530	965	......	66,369	92,926
1852	3,999	827	1,603	2,014	609	1,187	......	66,259	93,842
1853	5,019	916	1,762	2,897	674	1,374	......	72,572	100,148
1854	6,630	705	1,899	2,968	817	2,563	491	80,489	104,902
1855	4,267	760	1,954	2,434	933	2,393	470	77,301	97,850

1856	5,982	752	1,923	2,333	834	3,177	494	75,900	98,214
1857	5,509	261	1,906	2,405	900	1,284	......	63,556	79,425
1858	5,105	334	1,532	2,314	868	1,339	......	64,426	80,985
1859	6,590	355	2,057	2,223	989	1,072	......	63,460	78,354
1860	5,449	277	1,895	2,163	904	672	......	68,879	89,186
1861	5,440	219	1,968	1,711	917	472	......	65,871	84,634
1862	5,740	388	1,719	2,146	1,019	......	......	71,127	91,972
1863	6,831	318	1,888	1,952	1,157	......	......	70,382	90,065
1864	6,049	154	2,035	1,315	924	......	......	60,042	76,981
1865	3,646	282	1,739	1,001	931	......	......	54,868	70,449
1866	4,876	364	2,288	1,437	1,153	......	......	64,434	81,734
1867	3,461	217	2,437	1,178	1,065	......	......	60,897	78,416
1868	2,441	224	2,632	1,619	1,131	......	......	63,196	79,897
1869	2,777	209	2,158	1,285	1,235	.....	......	61,279	76,658
1870	2,128	236	2,360	1,437	1,353	......	......	61,733	78,291
1871	2,167	210	898	1,304	1,181	......	......	60,735	77,878
1872	2,356	117	654	1,444	1,267	......	......	60,441	78,806
1873	2,180	201	778	1,576	1,017	......	......	60,568	77,372
1874	1,885	130	680	1,265	835	......	......	52,995	68,398
1875	1,040	......	244	866	754	......	......	42,250	55,328
1876	1,285	......	177	721	824	......	......	37,267	50,243

STATEMENT No. 47—(*Continued*).

YEARS.	CHEMUNG CANAL.					CROOKED LAKE CANAL.			CHENANGO CANAL.			
	Havana.	Watkins.	Horseheads.	Corning.	Total.	Dresden.	PennYan.	Total.	Hamilton.	Oxford.	Binghamton.	Total.
1833....	82	......	170	......	1,253	153	....	153	......	....	......	.....
1834....	662	......	595	......	1,247	406	490	896	......	....	......	.....
1835....	911	......	851	......	1,892	424	651	1,075	......	....	.....	.....
1836....	1,000	......	951	......	1,951	512	667	1,779	......	....	......	....
1837....	967	......	737	......	1,704	448	550	998	183	167	162	517
1838....	879	......	741	......	1,620	437	521	958	399	304	366	1,069
1839....	895	......	729	......	1,624	403	527	930	303	369	208	880
1840....	798	......	755	......	1,553	111	403	814	228	298	237	763
1841....	1,153	......	1,442	......	3,595	414	476	890	316	422	301	1,039
1842....	1,013	......	1,348	......	3,361	413	318	731	252	358	205	815
1843....	1,119	......	1,350	......	3,468	448	516	964	344	343	281	968
1844....	1,371	......	1,679	......	3,050	447	529	976	262	509	357	1,128
1845....	1,534	......	1,134	......	3,696	624	571	1,195	258	491	440	1,189
1846....	1,515	......	1,314	1,028	3,699	778	500	1,278	263	430	514	1,207
1847....	1,941	......	1,339	870	4,440	750	510	1,300	425	502	550	1,447
1848....	1,884	......	1,457	1,152	4,569	555	589	1,184	546	493	506	1,545
1849....	1,714	......	1,024	1,228	3,843	559	466	1,025	335	335	319	989
1850....	1,714	......	914	1,105	3,839	560	482	1,042	348	512	435	1,295
1851....	1,702	......	890	1,211	3,828	505	411	916	274	322	311	907
1852....	1,814	......	946	1,235	3,999	418	409	827	488	462	623	1,603
1853....	2,224	......	1,174	1,621	5,019	458	458	916	588	372	802	1,762
1854....	2,772	......	1,700	2,158	6,630	371	334	705	496	482	921	1,899
1855....	2,218	......	1,234	1,815	5,267	367	393	768	697	405	852	1,954
1856....	2,548	......	1,697	1,737	5,082	385	367	752	613	438	872	1,923

1857....	2,343	.....	1,624	1,542	5,509	....	261	261	601	487	818	1,906
1858....	2,230	......	1,737	1,138	5,105	....	334	334	403	429	700	1,532
1859....	3,027	......	2,346	1,217	6,590	....	355	355	603	440	1,014	2,057
1860....	2,376	......	2,052	1,021	5,449	....	277	277	493	418	984	1,895
1861....	2,537	......	2,149	754	5,440	....	219	219	473	468	1,027	1,968
1862...	2,891	......	1,854	1,039	5,784	....	388	388	372	385	962	1,719
1863....	3,572	......	1,817	1,442	6,831	....	318	318	392	447	1,049	1,888
1864....	2,966	......	1,530	1,553	6,049	....	154	154	512	494	1,029	2,035
1865....	1,888	......	1,028	730	3,646	....	282	282	451	481	807	1,739
1866...	2,445	......	1,975	456	4,876	....	364	364	541	509	1,238	2,288
1867....	1,660	......	1,184	617	3,461	....	217	217	547	546	1,344	2,437
1868....	......	1,191	789	461	2,441	....	224	224	546	598	1,488	2,632
1869....	......	1,591	778	408	2,777	....	209	209	437	639	1,802	2,158
1870....	......	1,400	445	283	2,128	....	236	236	551	503	1,306	2,360
1871....	......	1,479	412	276	2,167	....	210	210	294	141	463	898
1872....	......	1,447	571	338	2,356	....	117	117	214	169	271	654
1873....	......	1,562	360	258	2,180	....	201	201	229	269	280	778
1874....	......	1,441	247	197	1,885	....	130	130	179	214	287	680
1875....	......	896	......	144	1,040	....	....	......	......	....	244	244
1876....	......	1,164	......	121	1,285	....	....	......	......	177	......	177

NOTE.—Office at Dresden abolished in 1857; office at Havana abolished in 1868, and Horseheads, Penn Yan, Hamilton and Oxford abolished in 1875; Binghamton abolished 1876 and re-established in 1876. Hamilton, Oxford and Binghamton established in 1837, Corning in 1846, Watkins in 1868.

STATEMENT No. 47—(*Continued*).

YEARS.	GENESEE VALLEY CANAL.							BLACK RIVER CANAL.			ONEIDA LAKE CANAL.	SENECA R. TOWING-PATH.	Total.
	Scottsville.	Mt. Morris.	Dansville.	Oramel.	Caneadea.	Olean.	Total.	Boonville.	Lyons Falls.	Total.	Higgins.	Baldwinsville.	
1833....	.....	.....	.....	....	....	....	.....	.....	....	.....	.....	.....	49,636
1834....	.....	.....	.....	....	....	....	.....	.....	....	.....	.....	.....	64,494
1835....	.....	.....	.....	....	....	....	.....	.....	....	.....	.....	.....	69,767
1836....	.....	.....	.....	....	....	....	.....	.....	....	.....	.....	.....	68,830
1837....	.....	.....	....	....	....	....	.....	.....	....	.....	.....	.....	62,525
1838....	.....	.....	.....	....	....	...	.....	.....	....	.....	.....	.....	65,377
1839....	.....	.....	.....	....	....	....	.....	.....	....	.....	.....	.....	68,882
1840....	478	.....	.....	....	....	....	574	.....	....	.....	.....	.....	69,301
1841....	1,096	.....	.....	....	....	....	1,096	.....	....	.....	574	.....	76,526
1842....	1,034	.....	531	....	....	...	1,565	.....	....	.....	1,101	.....	67,515
1843....	1,217	.....	592	....	....	....	1,807	.....	....	.....	1,250	.....	69,720
1844....	1,297	.....	748	....	....	....	2,045	.....	....	.....	1,237	.....	76,409
1845....	1,411	.....	812	....	....	....	2,223	.....	....	.....	1,260	.....	81,629
1846....	1,474	.....	892	....	....	....	2,366	.....	....	.....	1,089	.....	89,933
1847....	1,309	.....	974	....	....	....	2,283	.....	....	.....	1,307	.....	105,198
1848....	1,284	.....	1,105	....	....	....	2,389	.....	....	.....	1,677	.....	98,325
1849....	1,084	.....	1,078	....	....	....	2,162	.....	....	.....	2,304	.....	75,648
1850....	1,210	.....	1,015	....	...	....	2,225	.....	....	.....	393	.....	29,184
1851....	428	355	1,025	329	....	....	2,037	530	....	530	695	.....	92,926
1852....	555	261	728	270	....	....	2,014	609	....	609	1,187	.....	93,842
1853....	714	983	686	514	....	....	2,897	674	....	674	1,073	.....	109,148
1854....	614	1,166	453	935	....	....	2,968	817	....	817	2,563	491	104,902

1855....	432	1,093	441	468	....	....	2,434	933	....	933	2,393	470	97,856
1856....	509	1,008	377	439	....	....	2,333	834	....	834	3,177	494	98,214
1857....	402	1,049	319	482	....	153	2,405	900	....	900	1,284	.....	79,425
1858....	338	951	289	415	....	321	2,314	868	....	868	1,339	.....	80,985
1859....	369	827	276	404	....	342	2,233	989	....	989	1,072	.....	78,354
1860....	349	692	259	....	434	429	2,163	904	....	904	672	.....	89,186
1861....	293	576	147	....	367	328	1,711	917	....	917	472	.....	84,634
1862....	.....	882	181	....	527	556	2,146	1,019	....	1,019	.....	.....	91,972
1863....	.....	694	140	....	548	570	1,952	1,157	....	1,157	.....	.....	90,065
1864....	.....	485	132	....	363	335	1,315	924	....	924	.....	.....	76,981
1865....	.....	477	112	....	278	134	1,001	931	....	931	.....	.....	70,449
1866....	.....	473	151	....	435	378	1,437	1,153	....	1,153	.....	.....	81,734
1867....	.....	392	124	....	403	259	1,178	1,065	....	1,065	.....	.....	78,416
1868....	.....	577	132	....	503	407	1,619	818	313	1,131	.....	.....	79,897
1869....	.....	565	125	....	298	297	1,285	795	440	1,235	.....	.....	76,658
1870....	.....	435	142	....	392	468	1,437	776	577	1,353	.....	.....	78,291
1871....	.....	344	137	....	323	500	1,304	577	604	1,181	.....	.....	77,878
1872....	.....	433	119	....	400	492	1,444	599	668	1,267	.....	.....	78,806
1873....	.....	567	128	....	415	466	1,576	427	590	1,017	.....	.....	77,372
1874....	.....	582	.....	....	312	371	1,265	835	....	835	.....	.....	68,398
1875....	.....	461	.....	....	....	405	866	754	....	754	.....	.....	55,328
1876 ...	.....	435	.....	....	....	286	721	824	....	824	.....	.....	50,243

NOTE.—Oramel office abolished in 1860, and office at Caneadea established. Scottsville and Higgins offices abolished in 1862. Dansville and Lyons Falls abolished in 1874, and Caneadea in 1875. Office at Scottsville established in 1840; Higgins, 1841; Dansville, 1842; Mount Morris, Oramel and Boonville, 1851; Baldwinsville, 1854; Olean, 1857; Lyons Falls, 1868.

(No. 48.)

The number of clearances issued from 1833 *to* 1876, *both inclusive, is as follows:*

YEARS.	FROM TIDE WATER.				OTHER CLEARANCES.			
	New York.	Albany.	West Troy.	Total.	Erie.	Champlain.	Oswego.	Cayuga and Seneca.
1833	....	8,932	6,798	15,730	21,841	5,938	3,739	1,086
1834	....	9,283	6,942	16,225	29,441	7,159	6,867	1,891
1835	....	10,967	7,378	18,345	30,963	7,438	7,768	1,693
1836	....	10,235	6,801	17,035	31,837	7,752	6,870	1,730
1837	....	9,147	9,393	17,540	29,511	5,967	6,651	1,385
1838	....	9,530	6,530	16,060	30,282	5,582	7,364	1,361
1839	....	8,331	7,607	16,938	33,454	5,804	8,456	1,213
1840	....	8,860	6,868	15,728	35,231	5,871	7,472	1,223
1841	....	9,620	7,170	16,799	36,333	6,067	9,125	1,421
1842	....	9,293	7,143	16,436	31,529	4,709	6,878	1,397
1843	....	8,606	7,813	16,413	32,529	4,303	7,948	1,068
1844	....	10,345	9,048	19,393	32,216	4,911	10,204	1,249
1845	....	10,240	9,811	20,051	35,142	5,128	10,296	1,449
1846	989	10,171	10,308	21,468	93,276	6,605	11,067	1,881
1847	1,560	12,631	11,630	25,827	46,255	6,937	12,838	1,814
1848	1,141	10,501	11,008	22,640	43,829	6,454	12,406	1,932
1849	1,502	10,920	10,840	23,262	37,507	6,996	7,861	969
1850	2,177	11,694	11,746	25,617	39,115	6,958	7,751	886
1851	2,634	12,408	11,515	26,557	41,563	6,766	8,071	1,056
1852	2,649	12,687	12,247	27,583	39,177	7,714	7,844	954
1853	2,820	13,058	11,988	27,866	39,621	9,865	9,129	1,016
1854	3,319	11,136	9,958	24,413	41,461	7,781	13,316	1,857

1855	2,377	8,677	9,501	20,565	40,850	7,421	12,248	1,971
1856	2,605	7,713	11,961	22,314	35,514	7,625	14,827	2,439
1857	1,724	6,128	8,017	15,869	31,307	7,754	10,133	2,097
1858	1,603	6,859	8,097	16,559	28,849	8,807	13,538	1,740
1859	1,361	6,184	7,349	14,894	27,548	9,892	11,026	1,708
1860	2,439	7,524	10,344	20,307	30,957	10,295	14,298	1,969
1861	2,695	6,710	9,358	18,763	33,175	7,822	11,496	1,651
1862	1,311	8,301	11,233	20,845	35,344	9,618	13,601	1,508
1863	1,376	7,242	11,065	19,683	34,178	10,868	11,998	1,192
1864	2,279	6,011	8,649	16,939	28,446	10,332	9,254	1,533
1865	2,787	5,377	7,417	15,581	26,543	9,336	9,319	2,071
1866	3,079	6,392	7,829	17,300	30,190	11,370	10,292	2,464
1867	2,765	6,176	8,578	17,519	27,843	13,147	9,164	2,385
1868	3,052	6,000	7,649	16,701	30,422	11,956	9,357	3,414
1869	2,693	5,685	7,001	15,379	29,849	11,867	8,464	3,435
1870	2,376	5,851	8,331	16,558	31,395	11,454	8,153	3,217
1871	3,473	6,196	7,474	17,143	31,816	12,379	7,994	3,786
1872	4,174	6,111	8,080	18,365	49,416	13,438	7,542	2,572
1873	3,541	5,165	8,098	16,804	51,473	10,814	6,685	2,648
1874	2,797	5,228	7,378	15,403	44,994	10,052	6,421	2,136
1875	2,735	3,918	6,425	13,073	24,206	9,254	4,494	1,392
1876	2,319	3,852	6,805	12,976	21,955	7,554	3,898	853

STATEMENT No. 48—(*Continued*).

YEARS.	OTHER CLEARANCES.								
	Chemung.	Crooked Lake.	Chenango.	Genesee Valley.	Black River.	Higgins.	Baldwinville.	Total.	Total for all clearances.
1833	253	153	......	......	......	......	......	33,010	48,740
1834	1,247	896	......	......	......	......	......	47,501	63,726
1835	1,802	1,079	......	......	......	......	......	50,733	69,078
1836	1,951	1,175	......	......	......	......	......	50,219	67,255
1837	1,704	998	517	......	......	......	......	46,733	62,273
1838	1,629	958	1,069	......	......	......	......	48,736	64,796
1839	1,624	930	880	......	......	......	......	52,358	68,296
1840	1,553	814	762	478	......	......	......	53,405	69,133
1841	2,595	890	1,039	2,096	......	574	......	59,200	75,990
1842	3,861	731	815	1,595	......	1,101	......	51,079	67,515
1843	2,469	964	968	1,809	......	1,250	......	53,307	69,720
1844	3,050	976	1,128	2,045	......	1,237	......	57,016	76,409
1845	3,696	1,495	1,189	2,223	......	1,260	......	61,578	81,629
1846	3,699	1,278	1,207	2,366	......	1,089	......	68,468	89,936
1847	4,440	1,300	1,477	2,283	......	1,307	......	78,651	104,478
1848	4,569	1,184	1,545	2,389	......	1,677	......	75,685	97,325
1849	3,843	1,025	989	2,162	......	2,034	......	62,386	85,648
1850	3,830	1,042	1,295	2,225	......	393	.....	63,507	89,124
1851	3,828	916	907	2,037	530	965	......	66,369	92,926
1852	3,999	827	1,603	2,014	609	1,187	......	66,259	93,842
1853	5,019	916	1,762	2,897	674	1,374	......	72,572	100,148
1854	6,630	705	1,899	2,968	817	2,563	491	80,489	104,902
1855	4,267	760	1,954	2,434	933	2,393	470	77,301	97,850

1856	5,982	752	1,923	2,333	834	3,177	494	75,900	98,214
1857	5,509	261	1,906	2,405	900	1,284	......	63,556	79,425
1858	5,105	334	1,532	2,314	868	1,339	......	64,426	80,985
1859	6,590	355	2,057	2,223	989	1,072	......	63,460	78,354
1860	5,449	277	1,895	2,163	904	672	......	68,879	89,186
1861	5,440	219	1,968	1,711	917	472	......	65,871	84,634
1862	5,740	388	1,719	2,146	1,019	......	......	71,127	91,972
1863	6,831	318	1,888	1,952	1,157	......	......	70,382	90,065
1864	6,049	154	2,035	1,315	924	......	......	60,042	76,981
1865	3,646	282	1,739	1,001	931	......	......	54,868	70,449
1866	4,876	364	2,288	1,437	1,153	......	......	64,434	81,734
1867	3,461	217	2,437	1,178	1,065	......	......	60,897	78,416
1868	2,441	224	2,632	1,619	1,131	......	......	63,196	79,897
1869	2,777	209	2,158	1,285	1,235	.....	......	61,279	76,658
1870	2,128	236	2,360	1,437	1,353	......	......	61,733	78,291
1871	2,167	210	898	1,304	1,181	......	......	60,735	77,878
1872	2,356	117	654	1,444	1,267	......	......	60,441	78,806
1873	2,180	201	778	1,576	1,017	......	......	60,568	77,372
1874	1,885	130	680	1,265	835	......	......	52,995	68,398
1875	1,040	......	244	866	754	......	......	42,250	55,328
1876	1,285	......	177	721	824	......	......	37,267	50,243

(No. 49)

STATEMENT of the tons of property moved on each and all the canals, comprising the tons of total movement.

YEARS.	Erie.	Champlain.	Oswego.	Cayuga and Seneca.	Chemung.	Crooked Lake.
1837	667,151	261,659	161,353	20,274	20,288	24,258
1838	744,848	266,553	222,697	23,541	30,256	30,336
1839	845,007	263,552	221,014	36,300	26,089	26,823
1840	829,960	245,229	219,627	32,486	34,217	24,026
1841	906,442	276,418	135,689	34,634	63,042	33,030
1842	712,310	230,844	129,498	31,716	54,866	18,660
1843	819,216	262,212	240,571	25,998	66,247	31,856
1844	945,944	269,546	326,607	31,099	88,231	32,589
1845	1,038,700	266,922	340,481	46,464	114,740	39,489
1846	1,264,408	280,480	351,511	61,014	124,768	35,556
1847	1,661,575	313,124	441,096	58,204	189,165	36,318
1848	1,599,965	293,889	490,147	46,252	150,691	34,155
1849	1,622,444	321,345	557,637	40,440	135,867	36,317
1850	1,635,089	460,219	583,346	42,379	128,263	38,797
1851	1,955,265	513,793	676,321	37,084	159,563	29,309
1852	2,129,334	531,001	684,191	47,275	187,577	35,757
1853	2,196,308	608,354	761,276	58,793	249,980	53,985
1854	2,224,008	602,913	611,533	72,995	270,978	25,349
1855	2,202,463	537,108	654,399	76,744	223,271	25,850
1856	2,107,678	611,610	657,381	131,907	245,621	28,559
1857	1,566,624	547,236	605,218	120,435	187,201	16,571
1858	1,767,004	608,918	688,960	75,968	205,168	16,318
1859	1,753,954	751,046	612,390	80,602	256,323	17,933

1860	2,253,533	681,157	1,080,076	98,678	226,051	14,723
1861	2,500,782	545,930	852,920	100,992	208,792	12,239
1862	3,204,277	647,318	1,063,413	125,659	243,628	19,632
1863	2,955,302	878,920	992,173	119,704	307,151	11,230
1864	2,535,792	846,790	765,097	185,161	280,834	6,316
1865	2,523,490	815,311	825,649	192,312	164,796	9,376
1866	2,896,027	1,001,493	990,809	368,233	226,510	12,189
1867	2,920,578	1,047,440	940,136	389,704	145,627	6,558
1868	3,346,986	1,120,585	958,444	515,295	165,875	4,451
1869	2,845,072	1,059,334	934,638	533,516	245,761	7,541
1870	3,083,132	1,143,719	917,728	527,728	206,535	15,825
1871	3,580,922	1,099,995	941,858	445,186	173,281	12,024
1872	3,562,560	1,449,528	832,490	386,977	217,263	7,145
1873	3,602,525	1,195,390	655,588	437,382	257,962	12,831
1874	3,097,122	1,268,292	665,408	378,825	205,602	9,286
1875	2,787,226	1,077,746	486,530	224,492	129,425	....
1876	2,418,422	910,151	370,330	137,264	214,448	....

STATEMENT No. 49 — (*Continued*).

YEARS.	Chenango.	Genesee Valley.	Black River.	Oneida Lake.	Baldwinsville.	Total.
1837	8,213	....	....	....	....	1,171,296
1838	14,778	....	....	....	....	1,333,011
1839	16,928	....	....	....	....	1,435,713
1840	16,848	13,653	....	....	....	1,416,046
1841	23,356	26,892	....	22,150	....	1,521,661
1842	17,177	41,860	....	....	....	1,236,931
1843	19,026	48,313	....	26,445	....	1,513,439
1844	31,472	65,077	....	25,991	....	1,816,586
1845	38,305	73,546	....	28,808	....	1,977,565
1846	41,112	87,615	....	22,188	....	2,268,662
1847	44,051	95,632	....	30,642	....	2,869,810
1848	35,207	98,467	....	47,451	....	2,796,230
1849	36,557	84,674	....	59,451	....	2,894,732
1850	41,892	89,804	....	56,828	....	3,076,617
1851	40,307	100,722	25,320	45,049	....	3,582,733
1852	44,939	122,901	36,497	43,969	....	3,863,441
1853	76,538	157,164	41,924	43,351	....	4,247,853
1854	77,142	158,942	55,525	34,532	31,945	4,165,862
1855	89,390	102,321	51,347	27,116	32,608	4,022,617
1856	105,592	113,731	68,126	18,485	27,481	4,116,082
1857	96,722	114,576	69,135	19,343	....	3,344,061
1858	72,526	118,303	62,352	19,675	....	3,665,192
1859	89,691	124,263	75,946	19,536	....	3,781,684
1860	83,035	123,602	70,687	18,672	....	4,650,214
1861	91,661	94,329	69,930	30,060	....	4,507,635

1862	79,442	129,974	85,442	....	....	5,598,785
1863	90,215	112,549	90,448	....	....	5,557,692
1864	89,021	71,411	72,519	....	....	4,852,941
1865	68,822	56,581	73,317	....	....	4,729,654
1866	107,472	86,579	85,908	....	....	5,795,220
1867	103,064	64,679	70,539	....	....	5,688,325
1868	112,455	138,364	79,770	....	....	6,442,225
1869	83,527	69,141	80,550	....	....	5,859,080
1870	102,820	79,733	96,329	....	....	6,173,769
1871	39,793	85,269	89,560	....	....	6,467,888
1872	26,519	96,112	94,776	....	....	6,673,370
1873	30,317	86,770	86,017	....	....	6,364,782
1874	33,059	69,393	77,601	....	....	5,804,588
1875	23,769	64,677	65,993	....	....	4,859,858
1876	6,227	47,360	67,927	....	....	4,172,129

(No. 50.)

COMPARATIVE STATEMENT of the weekly receipts of tolls on the New York State canals, from 1849 *to* 1876, *both inclusive.*

PERIOD.	1849.	1850.	1851.	1852.	1853.
Received in April	....	$178,794	$297,898	$132,102	$185,003
First week in May	$204,062	80,477	112,105	83,106	75,334
Total	....	259,271	410,003	215,208	260,337
Second week in May	136,615	103,989	112,457	103,718	94,292
Total	340,677	363,260	522,460	318,926	354,629
Third week in May	137,461	113,673	121,471	119,051	108,673
Total	478,138	476,933	643,931	437,977	463,302
Fourth week in May	136,972	121,393	129,399	107,223	130,259
Total	615,110	598,326	773,330	545,200	593,561
First week in June	88,786	63,090	90,043	102,892	81,010
Total	703,896	661,416	863,373	648,092	674,571
Second week in June	90,242	67,329	86,223	90,308	108,378
Total	794,138	728,745	949,596	738,395	782,948
Third week in June	111,549	110,032	88,428	108,110	100,576
Total	905,687	838,777	1,038,024	846,505	883,525
Fourth week in June	107,850	83,707	91,296	103,410	104,827
Total	1,013,537	922,484	1,129,320	949,996	988,352
First week in July	84,764	66,176	82,827	81,266	82,564
Total	1,098,301	988,660	1,212,147	1,031,262	1,071,214
Second week in July	76,845	66,751	85,819	88,681	97,961
Total	1,175,146	1,055,411	1,297,906	1,119,943	1,169,175
Third week in July	77,509	75,718	101,874	102,536	102,984
Total	1,252,655	1,131,129	1,399,840	1,222,479	1,272,159

Fourth week in July	82,905	105,217	120,536	115,051	115,833
Total	1,335,560	1,236,346	1,520,376	1,357,530	1,387,992
First week in August	61,393	84,526	88,041	82,884	94,070
Total	1,396,958	1,320,872	1,608,417	1,429,414	1,472,062
Second week in August	66,422	84,485	93,704	95,937	85,747
Total	1,463,380	1,405,357	1,702,121	1,515,451	1,557,809
Third week in August	88,438	107,851	107,278	92,309	105,771
Total	1,551,818	1,512,208	1,809,399	1,607,760	1,663,580
Fourth week in August	114,265	150,592	128,848	129,278	131,756
Total	1,666,083	1,662,800	1,938,247	1,737,038	1,795,336
First week in September	96,057	104,621	103,204	103,794	100,456
Total	1,762,140	1,767,421	2,041,451	1,840,792	1,895,792
Second week in September	105,239	120,888	107,249	101,805	98,902
Total	1,867,379	1,888,309	2,148,700	1,942,597	1,994,694
Third week in September	137,188	132,812	127,185	124,350	131,367
Total	2,004,567	2,021,121	2,275,885	2,066,947	2,126,061
Fourth week in September	132,783	137,063	122,656	128,970	105,025
Total	2,137,350	2,158,184	2,398,541	2,195,917	2,231,086
First week in October	120,137	126,411	112,754	112,949	110,456
Total	2,257,487	2,284,595	2,511,295	2,308,966	2,341,542
Second week in October	131,626	107,339	118,230	121,078	129,947
Total	2,389,113	2,391,934	2,629,525	2,429,944	2,471,489
Third week in October	166,846	170,016	146,000	131,472	151,528
Total	2,555,959	2,561,950	2,775,525	2,561,416	2,623,017
Fourth week in October	187,924	161,406	160,945	144,886	132,306
Total	2,743,883	2,723,356	2,936,470	2,706,302	2,755,323
First week in November	153,847	134,478	115,399	122,801	130,351
Total	2,897,730	2,857,834	3,051,869	2,829,103	2,885,674

STATEMENT No. 50 — (*Continued*).

PERIOD.	1849.	1850.	1851.	1852.	1853.
Second week in November	$144,576	$166,122	$119,969	$116,025	$119,980
Total	3,042,306	3,023,956	3,171,838	2,945,128	3,005,654
Third week in November	154,106	171,098	119,648	125,498	127,260
Total	3,196,412	3,195,054	3,291,486	3,070,626	3,132,914
Fourth week in November	62,487	61,025	36,274	31,098	55,854
Total	3,258,899	3,256,083	3,327,760	3,101,724	3,188,768
Received in December	9,307	17,816	1,967	16,520	15,950
Total for year	$3,268,206	$3,273,899	$3,329,727	$3,118,244	$3,204,718

STATEMENT No. 50 — (*Continued*).

PERIOD.	1854.	1855.	1856.	1857.	1858.
Received in April	....	....	....	....	$38,945
First week in May	$111,168	$83,934	$38,393	$11,550	75,912
Total	....	....	....	....	114,857
Second week in May	132,283	90,226	64,736	74,458	72,784
Total	243,451	174,160	103,129	86,008	187,641
Third week in May	128,577	93,440	65,555	64,836	86,446
Total	372,028	267,600	168,684	150,844	274,087
Fourth week in May	131,134	130,566	73,447	66,499	80,198
Total	503,162	398,166	242,131	217,343	354,285
First week in June	105,595	96,850	79,093	56,742	71,808
Total	608,757	495,015	321,224	274,085	426,093
Second week in June	102,788	88,293	92,267	70,567	61,866
Total	711,545	583,309	413,491	344,652	487,979
Third week in June	101,139	104,204	103,578	86,714	75,672
Total	812,684	687,513	517,069	431,366	563,651
Fourth week in June	106,775	86,599	105,227	89,796	72,565
Total	919,459	774,112	622,296	521,162	636,216
First week in July	73,894	75,737	82,460	56,015	58,000
Total	993,353	849,849	704,756	577,177	694,216
Second week in July	87,253	77,771	84,134	76,039	64,672
Total	1,080,806	927,620	788,890	653,216	758,888
Third week in July	86,339	78,887	87,536	77,049	72,898
Total	1,166,945	1,006,507	876,426	730,265	831,786
Fourth week in July	94,856	100,734	117,942	105,718	83,346
Total	1,261,801	1,107,242	1,994,368	835,983	915,132

STATEMENT No. 50—(*Continued*).

PERIOD.	1854.	1855.	1856.	1857.	1858.
First week in August	$74,040	$79,960	$88,009	$81,771	$79,616
Total	1,335,841	1,187,202	1,082,377	917,754	984,748
Second week in August	77,440	75,713	94,159	76,750	63,887
Total	1,413,281	1,263,915	1,176,536	984,504	1,048,635
Third week in August	87,089	91,509	94,980	80,695	63,297
Total	1,500,370	1,354,424	1,276,516	1,075,199	1,111,932
Fourth week in August	74,190	106,453	114,606	101,404	73,900
Total	1,514,560	1,460,877	1,386,122	1,176,603	1,185,832
First week in September	89,584	95,552	105,555	78,464	59,389
Total	1,684,144	1,556,429	1,491,677	1,255,067	1,245,221
Second week in September	90,007	110,150	114,696	85,108	61,898
Total	1,774,151	1,666,579	1,606,373	1,340,175	1,307,119
Third week in September	111,638	123,789	139,920	76,563	82,467
Total	1,885,789	1,790,368	1,746,293	1,416,738	1,389,586
Fourth week in September	121,059	118,664	120,825	79,589	88,767
Total	2,006,848	1,909,032	1,867,118	1,496,327	1,478,353
First week in October	99,586	115,297	97,986	52,104	81,723
Total	2,106,434	2,024,329	1,965,104	1,548,431	1,560,076
Second week in October	93,181	117,717	120,248	58,223	92,824
Total	2,199,615	2,142,046	2,085,352	1,606,654	1,652,940
Third week in October	102,328	134,989	139,431	80,898	108,035
Total	2,301,943	2,777,035	2,224,783	1,687,552	1,760,975
Fourth week in October	118,441	135,637	143,869	91,193	97,799
Total	2,420,384	2,472,672	2,368,542	1,778,745	1,858,774

First week in November	99,537	106,037	103,223	81,783	70,772
Total	2,519,921	2,518,709	2,471,875	1,860,528	1,929,546
Second week in November	91,578	114,148	121,512	85,096	86,976
Total	2,611,499	2,632,856	2,593,387	1,945,624	2,016,522
Third week in November	96,100	124,081	106,989	72,929	77,491
Total	2,707,599	2,756,887	2,700,376	2,018,613	2,094,013
Fourth week in November	58,162	40,465	41,980	13,979	14,254
Total	2,765,761	2,797,353	2,742,356	2,032,592	2,108,267
Received in December	7,805	7,724	5,856	13,049	2,487
Total for year	$2,773,566	$2,805,077	$2,748,212	$2,045,641	$2,110,754

STATEMENT No. 50 — (*Continued*).

PERIOD.	1859.	1860.	1861.	1862.	1863.	1864.
Received in April.... ...	$68,879	$49,763	....	....	....	....
First week in May	40,495	84,265	$104,606	$166,020	$189, 699 00	$136, 564 26
Total.................	110,374	134,028	....	....	....	....
Second week in May	51,226	88,220	128,954	198,498	173, 320 42	154, 897 25
Total.................	161,600	222,238	233,560	364,518	363, 019 42	291, 461 51
Third week in May	52,345	81,638	148,807	172,830	210, 906 96	98, 917 10
Total.................	213,945	303,886	282,367	557,348	573, 926 38	390, 378 61
Fourth week in May	59,470	105,685	140,436	186,463	161, 533 35	185, 315 11
Total.................	273,415	409,571	522,803	743,811	735, 459 73	575, 693 72
First week in June.......	48,764	91,512	87,830	163,430	159, 683 34	156, 488 73
Total.................	322,179	501,083	610,633	907,241	895, 143 07	732, 182 45
Second week in June.....	50,581	84,203	180,240	184,098	191, 438 29	163, 811 00
Total.................	372,760	585,286	718,873	1,091,339	1, 086, 581 36	895, 993 45
Third week in June	60,408	92,652	154,759	149,231	197, 559 74	167, 210 63
Total.................	433,168	677,938	873,632	1,245,570	1, 284, 141 10	1, 063, 204 08
Fourth week in June	50,574	107,898	123,376	189,538	201, 435 23	174, 402 33
Total.................	483,742	785,836	997,008	1,430,108	1, 485, 576 33	1, 237, 606 41
First week in July	47,084	81,735	94,065	132,557	162, 760 94	111, 860 23
Total.................	530,826	867,571	1,091,073	1,562,665	1, 648, 337 27	1, 349, 466 64
Second week in July	48,163	80,258	89,981	176,646	160, 910 82	118, 700 09
Total.................	578,989	947,829	1,181,054	1,739,311	1, 809, 248 09	1, 468, 166 73
Third week in July	46,522	89,122	126,269	180,600	151, 705 41	146, 636 12
Total.................	625,511	1,034,951	1,307,323	1,919,911	1, 960, 953 50	1, 614, 802 85
Fourth week in July	60,738	119,521	138,841	231,298	143, 749 62	155, 078 08
Total....	686,249	1,154,472	1,446,164	2,151,209	2, 104, 703 12	1, 769, 880 93

First week in August.....	51,212	93,829	100,203	132,298	148,454 77	104,839 07
Total................	737,461	1,248,301	1,546,367	2,283,507	2,253,157 89	1,874,720 00
Second week in August...	47,456	93,821	86,588	107,046	115,006 26	131,008 12
Total................	784,917	1,342,122	1,632,955	2,390,553	2,368,164 15	2,005,728 12
Third week in August....	52,282	99,431	126,660	202,906	150,565 29	173,070 66
Total................	837,199	1,441,553	1,759,615	2,593,459	2,518,729 44	2,178,798 78
Fourth week in August...	57,964	122,359	160,038	226,008	153,799 69	170,528 36
Total................	895,163	1,563,912	1,919,653	2,819,467	2,672,529 13	2,349,327 14
First week in September..	56,973	118,770	145,619	188,446	135,581 81	140,731 61
Total................	952,136	1,682,682	2,065,272	3,007,913	2,808,110 94	2,490,058 75
Second week in September	52,249	103,196	147,598	191,234	140,229 53	133,535 38
Total................	1,004,385	1,785,878	2,212,870	3,199,147	2,948,340 47	2,623,594 13
Third week in September..	64,906	126,407	123,213	222,386	151,149 76	157,928 07
Total................	1,069,291	1,912,285	2,336,083	3,421,533	3,099,490 23	2,781,522 20
Fourth week in September	71,162	121,144	157,643	188,146	185,841 59	151,268 03
Total................	1,140,453	2,033,429	2,493,726	3,609,679	3,285,331 82	2,932,790 23
First week in October....	73,085	123,284	185,450	183,083	133,295 88	122,246 27
Total................	1,213,538	2,156,713	2,679,176	3,792,762	3,418,627 70	3,055,036 50
Second week in October..	64,365	125,390	164,912	212,473	155,262 12	145,974 84
Total................	1,277,903	2,282,103	2,844,088	4,005,235	3,573,889 82	3,201,011 34
Third week in October....	73,368	149,557	210,077	234,266	184,312 05	144,089 26
Total................	1,351,271	2,431,660	3,054,165	4,239,501	3,758,201 87	3,345,100 60
Fourth week in October..	96,057	162,161	218,197	188,313	211,406 29	138,032 95
Total................	1,447,328	2,593,821	3,272,362	4,427,814	3,969,608 16	3,483,133 55
First week in November..	77,820	112,022	168,305	186,909	168,648 95	132,256 36
Total................	1,525,148	2,705,843	3,440,667	4,614,723	4,138,257 11	3,615,389 91
Second week in November.	76,003	133,317	207,849	239,878	234,813 27	135,183 06
Total................	1,601,151	2,839,160	3,648,156	4,854,601	4,373,070 38	3,750,572 97

STATEMENT No. 50 — (*Continued*).

PERIOD.	1859.	1860.	1861.	1862.	1863.	1864.
Third week in November..	$84,566	$135,622	$207,240	$223, 878	$188, 417 74	$169,268 19
Total................	1,685,717	2,974,782	3,855,396	5, 078, 479	4, 561, 488 12	3,919, 841 16
Fourth week in November.	28,843	30,599	45,820	87, 178	66, 520 32	51, 062 97
Total................	1,714,560	3,005,381	3,901,216	5, 165, 657	4, 628, 008 44	3, 970, 904 13
Received in December....	9,385	4,216	7,569	23, 286	17, 198 67	13,077 70
Total................	$1,723,945	$3,009,597	$3,908,785	$5, 188, 943	$4,645, 207 11	$3,983,981 83

STATEMENT No. 50 — (*Continued*).

PERIOD.	1865.	1866.	1867.	1868.	1869.
Received in April	....	....	....	$2,200 64	....
First week in May	$72,085 69	$67,352 29	$26,656 26	114,984 61	$1,198 47
Total	....	....	....	117,185 25	....
Second week in May	84,358 03	91,451 17	75,276 08	128,720 11	156,928 47
Total	158,443 72	158,803 46	101,932 34	245,905 36	158,126 94
Third week in May	82,416 16	119,774 34	91,476 66	159,941 24	142,707 93
Total	238,859 88	278,577 80	193,409 00	405,846 60	300,834 87
Fourth week in May	97,219 09	155,887 51	109,412 55	143,756 26	138,468 01
Total	336,078 97	434,465 31	302,821 55	549,602 86	439,302 88
First week in June	86,679 95	130,346 63	107,659 36	127,828 71	116,122 81
Total	422,758 92	564,811 94	410,480 91	677,431 57	555,425 69
Second week in June	116,562 48	133,316 21	107,435 88	136,110 20	166,947 47
Total	539,321 40	698,128 15	517,916 79	813,541 77	722,373 16
Third week in June	122,386 20	193,487 73	111,179 44	157,037 84	179,407 16
Total	661,707 60	891,615 88	629,096 23	970,579 61	901,780 32
Fourth week in June	140,357 41	138,362 89	107,277 44	143,845 77	159,455 78
Total	802,065 01	1,029,978 77	736,373 67	1,114,425 38	1,061,236 10
First week in July	105,906 03	119,886 22	109,642 40	107,810 61	116,303 15
Total	907,971 04	1,149,864 99	846,016 07	1,222,235 99	1,177,539 25
Second week in July	127,296 82	160,904 73	138,468 97	137,240 12	129,755 37
Total	1,035,267 86	1,310,769 72	984,485 04	1,359,476 11	1,307,294 62
Third week in July	115,952 49	161,220 33	151,089 60	141,226 82	129,568 45
Total	1,151,220 35	1,471,990 05	1,135,574 64	1,500,702 93	1,436,863 07
Fourth week in July	179,689 75	173,568 42	174,687 83	165,299 71	141,874 36
Total	1,330,910 10	1,645,558 47	1,310,262 47	1,666,002 64	1,578,737 43

STATEMENT No. 50—(*Continued*).

PERIOD.	1865.	1866.	1867.	1868.	1869.
First week in August	$137,046 09	$131,614 58	$137,318 02	$132,550 61	$112,013 61
Total	1,467,956 19	1,777,173 05	1,447,580 49	1,798,553 25	1,690,751 04
Second week in August	133,788 12	153,373 71	114,641 96	133,304 39	131,932 26
Total	1,601,744 31	1,930,546 76	1,562,222 45	1,931,857 64	1,822,683 30
Third week in August	129,663 38	157,359 06	142,172 27	161,099 13	150,309 76
Total	1,731,407 69	2,087,905 82	1,704,394 72	2,092,956 77	1,972,993 06
Fourth week in August	163,835 18	227,741 85	183,925 66	159,681 94	171,266 02
Total	1,895,242 87	2,315,647 67	1,888,320 38	2,252,638 71	2,144,259 08
First week in September	135,669 33	161,110 75	144,995 97	179,720 00	137,370 36
Total	2,034,912 20	2,476,758 42	2,033,316 35	2,432,358 71	2,281,629 44
Second week in September	129,970 67	162,801 13	164,643 97	184,868 63	124,090 31
Total	2,160,882 87	2,639,559 55	2,197,960 32	2,617,227 34	2,405,720 25
Third week in September	161,486 39	153,247 61	172,727 34	184,576 52	169,935 08
Total	2,322,369 26	2,792,807 16	2,370,687 66	2,801,803 86	2,575,655 33
Fourth week in September	168,206 54	167,104 03	216,751 97	180,404 66	147,975 74
Total	2,490,575 80	2,959,911 19	2,587,439 63	2,982,208 52	2,723,631 07
First week in October	191,607 64	167,952 30	170,028 95	166,875 63	129,554 69
Total	2,682,183 44	3,127,863 49	2,757,468 58	3,149,084 15	2,853,185 76
Second week in October	159,183 75	139,090 22	209,055 96	168,496 14	100,144 81
Total	2,841,367 19	3,266,953 71	2,966,524 54	3,317,580 29	2,953,330 57
Third week in October	127,940 55	216,598 88	243,428 09	175,517 26	106,750 50
Total	2,969,307 74	3,483,552 59	3,209,952 63	3,493,097 55	3,060,081 07
Fourth week in October	196,931 53	189,636 61	252,541 85	230,299 79	156,391 08
Total	3,166,239 27	3,673,189 30	3,462,494 48	3,723,397 34	3,216,472 15

First week in November.......	177,205 16	187,819 61	145,194 24	194,278 05	141,006 40
Total.....................	3,343,444 43	3,861,008 91	3,607,688 72	3,917,675 39	3,357,478 55
Second week in November.....	186,843 68	198,444 77	210,611 40	174,819 32	165,636 37
Total.....................	3,530,288 01	4,059,453 68	3,818,300 12	4,092,494 71	3,523,114 92
Third week in November......	208,726 32	230,857 46	176,699 54	94,750 33	177,608 42
Total.....................	3,739,014 33	4,290,311 14	3,994,999 66	4,187,245 04	3,700,723 34
Fourth week in November.....	76,734 79	112,451 36	77,878 38	50,347 13	67,744 88
Total.....................	3,815,749 12	4,402,772 50	4,072,878 04	4,237,592 17	3,768,468 22
Received in December.........	24,205 68	33,874 80	15,179 90	8,971 39	10,032 96
Total for year..............	$3,839,954 80	$4,436,647 30	$4,088,057 94	$4,246,563 56	$3,778,501 18

STATEMENT No. 50 — (*Continued*).

PERIOD.	1870.	1871.	1872.
Received in April		$89,712 11	
First week in May		40,565 59	
Total		130,277 70	
Second week in May	$74,782 33	47,696 44	$8,350 04
Total		177,974 14	
Third week in May	81,453 67	117,903 28	73,731 00
Total	156,236 00	295,877 42	82,081 04
Fourth week in May	98,676 16	105,319 40	141,083 90
Total	254,912 16	401,196 82	223,164 94
First week in June	111,827 92	81,949 51	110,449 69
Total	366,740 08	483,146 33	333,614 63
Second week in June	98,780 33	94,618 16	100,043 66
Total	465,520 41	577,764 49	433,658 29
Third week in June	123,541 78	115,140 08	140,405 83
Total	589,062 19	692,904 57	573,064 12
Fourth week in June	112,074 86	107,586 97	126,950 08
Total	701,137 05	800,491 54	701,014 20
First week in July	76,219 63	85,511 09	98,434 51
Total	777,356 68	886,002 63	799,448 71
Second week in July	98,320 65	99,130 00	101,879 66
Total	875,677 33	985,132 63	901,328 37
Third week in July	101,570 70	115,576 49	106,643 13
Total	977,248 03	1,100,709 12	1,007,971 50
Fourth week in July	97,291 87	121,162 24	129,837 17
Total	1,074,539 90	1,221,871 36	1,137,808 67

First week in August	88,171 74	101,857 94	121,353 11
Total	1,161,711 64	1,323,729 30	1,259,161 78
Second week in August	86,561 20	101,758 35	110,096 48
Total	1,248,272 84	1,425,487 65	1,369,258 26
Third week in August	110,078 36	123,002 05	122,339 45
Total	1,358,351 20	1,548,489 70	1,491,597 71
Fourth week in August	109,308 15	132,762 15	163,395 55
Total	1,467,659 35	1,681,251 85	1,654,993 26
First week in September	100,339 41	127,965 81	123,156 18
Total	1,567,998 76	1,809,217 66	1,778,149 44
Second week in September	93,813 91	118,454 66	105,976 83
Total	1,661,812 67	1,927,672 32	1,884,126 27
Third week in September	103,792 78	122,840 65	142,934 44
Total	1,765,605 45	2,050,512 97	2,027,060 71
Fourth week in September	106,400 33	149,069 23	152,317 00
Total	1,872,005 78	2,199,582 20	2,179,377 71
First week in October	74,228 56	112,836 68	101,094 51
Total	1,946,234 34	2,312,418 88	2,280,472 22
Second week in October	88,876 64	122,755 63	129,926 82
Total	2,035,110 98	2,435,174 51	2,410,399 04
Third week in October	114,194 61	103,755 61	133,287 48
Total	2,149,295 59	2,538,930 12	2,543,686 52
Fourth week in October	127,344 00	126,358 38	127,116 03
Total	2,276,639 59	2,665,288 50	2,670,802 55
First week in November	87,068 76	131,668 41	127,736 00
Total	2,363,708 35	2,796,956 91	2,798,538 55
Second week in November	99,461 10	130,088 81	139,544 03
Total	2,463,169 45	1,927,045 72	2,938,082 58
Third week in November	98,876 81	126,603 05	97,130 01
Total	2,562,046 26	3,053,648 77	3,035,212 59

STATEMENT No. 50—(*Continued*).

PERIOD.	1870.	1871.	1872.
Fourth week in November	$39,392 52	$45,256 97	$33,261 42
Total	2,601,438 78	3,098,905 74	3,068,474 01
Received in December	10,138 90	1,933 08	3,937 71
Total for the year	$2,611,577 68	$3,100,838 82	$3,072,411 72

STATEMENT No. 50 — (*Continued*).

PERIOD.	1873.	1874.	1875.	1876.
Received in April	....	....	....	....
First week in May	....	$36,120 67	....	$13,318 03
Total	....	....	....	....
Second week in May	....	89,001 33	....	35,704 99
Total	....	125,122 00	....	49,023 02
Third week in May	$110,354 47	116,474 71	$44,376 39	75,611 43
Total	....	241,596 71	....	124,634 45
Fourth week in May	147,673 82	120,302 25	56,266 51	55,820 04
Total	258,028 29	361,898 96	100,642 90	180,454 49
First week in June	109,978 69	130,689,63	56,777 86	47,752 17
Total	368,006 98	492,508 59	157,420 76	228,206 66
Second week in June	95,857 05	102,167 34	46,570 25	46,556 12
Total	463,864 03	594,755 93	203,991 01	274,762 78
Third week in June	106,942 77	137,998 85	73,123 62	48,945 78
Total	570,806 80	732,754 78	277,114 63	323,708 56
Fourth week in June	127,109 45	121,537 75	74,882 46	64,021 94
Total	697,916 25	854,292 53	351,997 09	387,730 50
First week in July	94,143 60	93,796 75	57,036 47	41,722 21
Total	792,059 85	948,089 28	409,033 56	429,452 71
Second week in July	114,225 74	96,366 77	62,897 03	49,916 82
Total	906,285 59	1,044,456 05	471,930 59	479,369 53
Third week in July	119,504 33	104,477 22	63,482 03	36,009 72
Total	1,025,790 42	1,148,933 27	535,412 62	515,379 25
Fourth week in July	138,951 50	118,884 35	64,733 38	47,379 20
Total	1,164,741 92	1,267,817 62	600,146 00	562,758 45

STATEMENT No. 50—(*Continued*).

PERIOD.	1873.	1874.	1875.	1876.
First week in August	$94,352 28	$71,354 32	$54,482 11	$32,641 38
Total	1,259,094 20	1,339,171 94	654,628 11	595,399 83
Second week in August	83,002 37	71,925 74	49,615 49	37,360 23
Total	1,342,096 57	1,411,097 68	704,243 60	632,760 06
Third week in August	126,725 68	82,651 38	77,953 49	50,909 29
Total	1,468,822 25	1,493,749 06	782,197 09	683,669 35
Fourth week in August	151,719 55	82,837 66	64,870 64	56,014 94
Total	1,620,541 80	1,576,586 72	847,067 73	739,684 29
First week in September	100,827 52	91,977 73	54,042 45	50,370 90
Total	1,721,369 32	1,668,564 45	901,110 18	790,055 19
Second week in September	118,538 75	109,076 96	67,462 70	36,817 55
Total	1,839,908 07	1,777,641 41	968,572 88	826,872 74
Third week in September	162,725 38	122,004 03	57,187 13	50,970 52
Total	2,002,633 45	1,899,645 44	1,025,760 01	877,843 26
Fourth week in September	137,961 75	99,292 52	77,155 77	61,538 76
Total	2,140,595 20	1,998,937 96	1,102,915 78	939,382 02
First week in October	126,212 05	79,832 60	54,901 26	55,721 26
Total	2,266,807 25	2,078,770 56	1,157,817 04	995,103 28
Second week in October	124,765 37	91,891 62	67,461 59	59,073 36
Total	2,391,572 62	2,170,662 18	1,225,278 63	1,054,176 64
Third week in October	130,891 07	109,109 93	69,424 80	48,685 01
Total	2,522,463 69	2,279,772 11	1,294,703 43	1,102,861 65
Fourth week in October	147,346 42	111,626 68	75,854 22	63,857 11
Total	2,669,810 11	2,391,398 79	1,370,557 65	1,166,718 76

First week in November	126,956 57	91,083 15	72,588 93	56,939 56
Total	2,796,766 68	2,482,481 94	1,443,146 58	1,223,658 32
Second week in November	127,754 22	94,287 33	80,040 37	68,614 32
Total	2,924,520 90	2,576,769 27	1,523,186 95	1,292,272 64
Third week in November	47,851 30	47,365 08	57,304 45	34,282 30
Total	2,972,372 20	2,624,134 35	1,580,491 40	1,326,554 94
Fourth week in November	2,047 91	10,833 82	8,417 50	11,842 76
Total	2,974,420 11	2,634,968 17	1,588,908 90	1,338,397 70
Received in December	2,298 43	2,102 75	1,123 35	1,605 60
Total for the year	$2,976,718 54	$2,637,070 92	$1,590,032 25	$1,340,003 30

(No. 51.)

RATES OF TOLL, 1876.

Established by the Canal Board on persons and property transported on the New York State Canals, to take effect on the opening of navigation.

ARTICLES PAYING ONE-HALF MILL PER 1,000 POUNDS PER MILE.

Bleaching powder, going from tide water; brick of every description; clay; coffee; copper ore; copper, pig, smelted; crockery; fire-brick; fish, salted, going from tide water; gas pipes; iron bridge and railing, when cleared at tide water; iron bolts, when cleared at tide water; molasses; plaster, calcined or plaster of Paris, going from tide water; railroad chairs, when cleared at tide water; railroad iron; sal soda, going from tide water; salted fish, going from tide water; soda ash; sugar; water pipes.

Ashes, leached; bones; car axles, when cleared at tide water; car wheels; charcoal; coal, anthracite and bituminous; coal oil; coal tar and products thereof; cullet, or broken glass to be melted over; earth; gypsum, unground, product of this State; hay, pressed; horseshoes; ice; iron, articles exclusively manufactured of wrought or rolled iron, not specifically enumerated, when cleared at tide water; iron, boiler, when cleared at tide water; iron, in bars and bundles, when cleared at tide water; iron ore; iron, bloom and pig, going from tide water; lead, bar and pig, going toward tide water; limestone; manure; marl; nails; petroleum, crude and refined; peat; pig iron, going from tide water; sand; sawdust; scrap iron; slate; spikes; steel, in bars and bundles, when cleared at tide water; stone for the manufacture of lime; stone, unwrought and partly wrought; straw, pressed, and any pressed vegetable substance used for the manufacture of paper and paper pulp; tin plate, going from tide water.

ARTICLES PAYING ONE MILL PER 1,000 POUNDS PER MILE.

Acid, sulphuric; agricultural implements, going from tide water; articles not enumerated, going from tide water; apples; barley; beef, salted; bolts, staves, if carried in boats; butts, staves, if carried in boats; cheese; cider; corn; corn meal; domestic distilled spirits; domestic cottons; domestic woolens; flour; glass ware; heading, undressed, transported in boats; heading, dressed and partly dressed;

hoops, rived; iron, in sheets, bars and bundles; iron, boiler; iron, bridge and railing; iron bolts; iron safes; junk; leather; mahogany; malt; merchandise, non-enumerated; oats; oil cake; oil meal; pig copper; railroad chairs; rye; ship stuff; shooks, staves; steel in bars and bundles; stoves; tar; tobacco, going from tide water; turpentine; varnish; vinegar; wheat.

Bacon; barrels, empty, transported in boats; bran; brimstone; car axles, when not cleared at tide water; casks, empty, transported in boats; cement, fire proof and hydraulic; cotton; esculent roots; gypsum, ground and unground; hemp, going toward tide water; lard; lard oil; lime; onions; potatoes; rice, going from tide water; salt, manufactured in this State; staves and heading, sawed, cut and dressed or partly dressed; shooks and stave bolts and butts, not exceeding four feet and a-half in length, transported in boats; tobacco, unmanufactered, going toward tide water; turnips; water lime; wool.

ARTICLES PAYING ONE AND ONE-HALF MILLS PER 1,000 POUNDS PER MILE.

Articles not enumerated, going toward tide water; agricultural productions of the United States not particularly specified; ashes, pot and pearl; butter; carboys; carts; carriages and sleighs; cattle, alive; clover seed; flax seed; grass seed; hogs, alive; hops; sheep, alive; ship knees; wagons.

Barytes; beans; cabinet ware; castings, all iron castings; furniture, cabinet ware and chairs; furniture for stoves; grease; hides; peas; pork, salted; rags; tallow.

Buffalo skins; deer skins; moose skins; furs and skins of animals producing furs.

ARTICLES PAYING TWO AND ONE-HALF MILLS PER 1,000 POUNDS PER MILE.

Salt, foreign; tan bark, ground.

ARTICLES PAYING THREE MILLS PER 1,000 POUNDS PER MILE.

Horses; shrubbery and trees.

ARTICLES PAYING FOUR MILLS PER 1,000 POUNDS PER MILE.

Powder and gunpowder; shingles per M. per mile, in rafts; window sashes; wood per cord, for fuel.

ARTICLES PAYING FIVE MILLS PER 1,000 POUNDS PER MILE.

Barrels, empty, transported in rafts; bolts, stave, transported in rafts; butts, stave, transported in rafts; casks, empty, transported in rafts; heading, transported in rafts; hop poles, transported in rafts; hoop poles, transported in rafts; ship knees, transported in rafts; staves and heading, not exceeding four feet and a half in length, transported in rafts.

LUMBER, SHINGLES AND TIMBER.

Lumber No. 1.*

Transported in boats, by weight, per 1,000 pounds per mile:

	c.	m.	fr.
White pine, white wood, bass wood, cedar boards, planks, scantling, and on all sidings, lath and other sawed stuff, less than one inch thick (except such as is enumerated in *Lumber No.* 3)	0	1	5
Oak, hickory, beech, sycamore, black walnut, butternut, maple, ash, elm, fir, tamarack, yew and cherry	0	1	0
Hemlock and spruce	0	0	7

Lumber No. 2.*

Transported in boats by measurement, per 1,000 feet per mile:

	c.	m.	fr.
Boards, plank, scantling, railroad ties, pickets for fences and sawed timber, siding, lath and other sawed stuff, less than one inch thick (except reduced to inch measure, such as is enumerated in *Lumber No.* 3); lath, when cleared by measurement, may be estimated at *twenty feet* for each bunch of one hundred pieces; and all kinds of red cedar, cedar posts, estimated that a cord, after deducting for openings, will contain 1,000 feet	0	4	0
Hemlock and spruce per 1,000 feet per mile, when not weighed	0	2	0
Lumber No. 2, transported in rafts, per 1,000 feet per mile	2	5	0

Lumber No. 3.*

Transported in boats by weight, per 1,000 pounds per mile:

Sawed lath of less than ten feet in length, split lath, hoop poles, hand spikes, rowing oars, broom handles, spokes, hubs, treenails, fellies, boat and ship knees, plane stocks, pickets for fences, railroad ties, last blocks, stuff, manu-

	c.	m.	fr.
factured or partly manufactured, for boxes, chairs and bedsteads, hop poles, brush handles, brush backs, looking-glass backs, gun stocks, plow beams and plow handles	0	1	5
Sawed stuff for window blinds, not exceeding one-fourth of an inch in thickness	0	4	0

Timber.

Per 100 cubic feet, per mile, transported in boats:

Square and round, other than hemlock	0	5	0
Square and round, hemlock	0	3	0
Square and round (all kinds), transported in rafts	1	0	0
Sawed timber (see *Lumber No.* 2), per 1,000 feet per mile	0	4	0

Shingles.

In boats, per 1,000 pounds per mile	0	1	0
In boats, per M per mile	0	0	5
In rafts, per M per mile	0	4	0
Posts, split and round, not exceeding eight feet in length, carried in boats, per M per mile	1	5	0
On the same, if carried in rafts, per M per mile	8	0	0
Rails for fences, not exceeding fourteen feet in length, carried in boats, per M per mile	1	5	0
On the same, if carried in rafts, per mile	8	0	0

*Lumber.**

Shall not be cleared by measurement when carried in a boat having other articles on board paying toll by *weight*, but such lumber shall in all such cases be also cleared by weight.

When a cargo is composed entirely of lumber, which can be cleared by weight or measure, the whole of such cargo shall be cleared by measurement or by weight, as the shipper or master may elect, and in no case shall a portion of any such cargo be cleared by measurement and the other portion by weight.

Articles Paying Toll by the Cord.

Tan bark, per cord per mile, carried in boats	0	5	0
Tan bark, per cord per mile, carried in rafts	2	0	0

	c.	m.	fr.
Wood for fuel, per cord per mile, carried in boats	0	4	0
Wood for fuel, per cord per mile, carried in rafts	2	0	0
Wood used in manufacture of salt	0	5	0

BOATS AND PASSENGERS.

	c.	m.	fr.
On boats *used chiefly* for the transportation of passengers, upon *all canals*, per mile	4	0	0
On the same, if they elect to commute for tolls upon passengers	3	0	0
On boats *used chiefly* for the transportation of property, per mile	2	0	0
On the same if they elect to commute for tolls upon passengers	2	3	0
On boats registered before July 1, 1862, whose bows do not conform to regulation No. 40, per mile	2	0	0
Boats used exclusively in the towage of boats on the canals, together with the machinery and fuel necessary therefor, exempt from toll.			
On all persons over ten years of age, per mile	0	0	5

(No. 52.)

STATEMENT of the number, class and tonnage of boats built and registered in 1876.

TONNAGE.	Steam-boats.	M. bow.	Scows.	Decked scows.	Lake.	Bull-heads.	Total boats.	Total tons.
300	....	....	....	....	....	....	....	....
280	....	....	....	....	....	....	....	....
250	....	....	1	....	1	....	2	500
240	....	....	4	....	14	....	18	4, 320
230	....	....	1	....	2	....	3	690
225	....	....	....	....	1	....	1	225
220	....	....	....	....	....	....	....	....
200	1	....	1	....	....	....	2	400
190	....	....	....	....	....	....	....	....
180	....	....	....	....	....	....	....	....
170	....	....	....	....	....	....	....	....
160	....	....	2	....	....	....	2	320
150	....	....	....	....	....	....	....	....
140	....	....	....	....	....	....	....	....
130	....	....	....	....	....	....	....	....
125	....	1	....	....	....	....	1	125
120	....	1	....	....	....	....	1	120
115	....	1	....	....	....	...	1	115
110	....	10	....	....	....	....	10	1, 110
100	....	10	...	1	....	....	11	1, 100
95	....	9	....	....	....	....	9	855
90	....	6	....	1	....	....	7	630
85	....	....	....	....	....	....	....	....
80	....	....	....	1	....	....	1	80
75	....	....	....	....	....	....	....	....
70	....	1	....	....	....	....	1	70
60	....	1	....	....	....	....	1	60
50	....	....	....	....	....	....	....	....
45	....	....	....	....	....	....	....	....
30	3	....	....	....	....	....	3	90
25	....	....	....	....	....	....	....	....
20	....	....	....	....	....	....	....	....
15	1	....	....	....	....	....	1	15
	5	40	9	3	18	....	75	10, 825

(No. 53.)

STATEMENT showing the various tonnage of the boats registered in each of the last thirty-two years, and the progressive increase of their capacity.

TONNAGE.	Inventory of all boats to January, 1844.	New Boats Registered.									
		1844.	1845.	1846.	1847.	1848.	1849.	1850.	1851.	1852.	1853.
280	......	....	....	....	....	....	....	....	....	....	.....
250	......	....	....	....	....	....	....	....	....	....	3
240	......	....	....	....	....	....	....	....	....	....	1
230	......	....	....	....	....	....	....	....	....	....	.....
225	......	....	....	....	....	....	....	....	....	....	.....
220	......	....	....	....	....	....	....	....	....	....	1
200	......	....	....	....	....	....	....	....	....	....	5
190	......	....	....	....	....	....	....	....	....	....	.....
180	......	....	....	....	....	....	....	....	....	....	.....
170	......	....	....	....	....	....	....	....	1	....	.....
160	......	....	....	....	....	....	....	....	....	....	.....
150	......	....	....	....	....	....	....	2	....	1	6
140	......	....	....	....	....	....	....	....	....	....	.....
135	......	....	....	....	....	....	....	....	....	....	.....
130	......	....	....	....	....	....	1	....	1	2	7
125	......	....	....	....	....	....	....	....	1	....	18
120	......	....	....	....	....	....	1	....	2	....	16
115	......	....	....	....	....	....	....	....	....	....	10
110	......	....	....	....	....	....	....	....	....	....	16
105	......	....	....	....	....	....	....	....	....	....	.....
100	......	....	....	....	....	....	2	13	27	34	79

95	......	....	1	1	6	....	4	6	23	63	180
90	2	1	4	6	27	10	4	25	72	90	164
85	1	....	1	1	45	21	13	16	11	22	22
80	3	9	13	100	560	143	78	38	28	26	33
75	14	33	60	186	553	158	75	17	22	10	15
70	175	124	107	123	162	59	20	20	18	9	6
65	295	94	54	26	44	13	2	4	1	4	3
60	526	71	33	9	30	25	7	3	2	2	2
55	256	15	4	1	13	8	....	....	....	....	.....
50	457	14	5	3	4	2	2	4	1	6	3
45	158	1	2	1	3	4	....	....	1	....	.....
40	148	....	....	3	4	1	....	3	1	....	.....
35	33	1	1	....	3	....	....	....	1	....	.....
30	34	11	1	2	3	6	4	....	....	....	.....
25	10	3	....	4	3	....	....	....	....	....	.....
20	8	....	3	3	2	...	2	....	....	....	.....
15	3	1	....	....	1	1	....	....	....	....	.....
10	4	....	1	2	3	1	....	....	....	2	.....
5	......	....	4	....	....	....	....	1	....	....	.....
2	......	....	3	....	....	....	....	....	....	....	.....
	2,126	378	297	477	1,466	457	215	152	213	271	590

STATEMENT No. 53 — (*Continued*).

TONNAGE.	New Boats Registered.									
	1854.	1855.	1856.	1857.	1858.	1859.	1860.	1861.	1862.	1863.
280	....	....	....	....	....	....	....	....	2	.....
250	1	...	1	1	1	2	2	16	3	.....
240	....	1	2	....	....	....	....	7	1	.....
230	....	....	....	....	....	....	....	....	28	3
225	....	....	....	....	....	....	....	....	113	2
220	1	....	....	....	....	....	3	55	4	69
200	3	4	....	3	3	4	33	176	310	254
190	....	....	....	....	....	....	....	....	19	25
180	....	....	4	....	7	12	60	51	6	70
170	1	....	....	....	15	7	17	9	16	8
160	....	....	....	....	....	....	....	....	2	9
150	13	2	2	51	46	11	14	27	84	24
140	....	....	4	15	5	1	2	19	12	14
135	....	....	5	2	....	....	2	1	....	.....
130	9	43	22	16	4	2	2	3	8	16
125	105	18	14	21	15	1	5	6	2	3
120	143	125	118	84	13	9	22	15	19	15
115	34	17	13	4	....	....	5	1	13	3
110	87	12	10	6	3	1	4	6	4	5
105	....	....	1	2	....	2	....	....	....	.....
100	83	28	28	8	25	14	55	69	100	61
95	69	40	38	18	15	5	13	20	24	14
90	95	58	69	43	16	36	42	42	54	102
85	20	16	3	16	5	8	35	30	3	8

80.	44	28	6	15	22	25	49	37	4	18
75.	32	43	17	14	14	21	19	....	4	7
70.	10	23	4	3	7	16	4	7	1	10
65.	1	2	....	1	3	4	3	2	....	.....
60.	2	4	....	3	18	8	2	6	1	6
55.	....	....	....	....	....	10	....	....	....	.....
50.	1	3	1	....	7	1	2	2	2	5
45.	1	....	....	....	1	3	1	....	1	6
40.	1	....	1	1	3	....	1	1	....	.....
35.	....	....	....	....	....	....	1	....	....	.....
30.	....	....	....	1	....	....	....	....	2	9
25.	1	1	....	....	3	....	....	1	4	.....
20.	....	1	1	....	....	....	1	1	1	4
15.	2	1	1	....	1	1	....	....	....	.....
	760	471	363	328	253	204	400	619	848	770

STATEMENT No. 53 — (*Continued*).

TONNAGE.	New Boats Registered.												
	1864.	1865.	1866.	1867.	1868.	1869.	1870.	1871.	1872.	1873.	1874.	1875.	1876.
280	....	....	....	....	....	....	....	....	....	....	....	....	....
250	....	4	8	2	3	3	7	4	14	1	6	5	2
240	1	3	40	47	49	60	49	44	92	176	111	35	18
230	3	4	28	42	61	38	37	18	21	20	16	4	3
225	11	4	24	29	44	18	10	7	10	26	2	1	1
220	30	19	43	47	27	14	11	4	19	21	4	3	....
200	98	45	68	56	32	11	13	6	45	20	20	8	2
190	3	....	....	5	....	....	....	....	....	....	....	....	....
180	7	4	4	....	....	....	2	....	1	1	....	....	....
170	....	3	....	....	....	1	....	....	1	2	....	....	....
160	2	....	4	....	2	....	1	2	....	....	3	....	2
150	24	8	11	12	7	2	....	....	6	4	....	....	....
140	15	3	5	7	7	2	2	....	10	16	7	1	....
135	....	....	....	....	....	....	....	....	....	15	....	....	....
130	3	2	7	20	5	7	19	13	3	5	1	1	....
125	5	2	4	4	2	....	2	1	1	10	5	4	1
120	6	6	21	16	6	7	7	2	10	2	2	2	1
115	4	4	12	....	....	....	2	1	1	35	3	....	1
110	2	6	2	....	2	3	2	1	7	33	15	6	10
105	...	....	....	....	....	....	....	....	....	8	....	....	....
100	38	11	95	114	40	43	30	28	23	14	13	5	11
95	38	5	21	....	7	3	4	3	3	5	6	9	9
90	66	37	65	83	27	19	13	13	14	3	8	10	7
85	4	2	2	....	3	2	5	1	4	1	3	3	....

80	19	8	6	22	7	4	5	2	6	6	3	....	1
75	1	6	4	7	4	5	4	5	5	6	3	....	.....
70	7	6	4	4	23	23	9	22	12	1	6	....	1
65	....	....	....	....	....	....	....	....	....	....	....	....	.....
60	6	3	4	2	23	25	31	13	14	....	5	1	1
55	....	....	....	....	....	....	....	....	....	....	....	....	.....
50	1	1	1	1	6	6	2	....	1	....	3	2	.....
45	3	....	....	....	....	....	....	....	....	1	2	....	.....
40	....	....	....	....	....	....	....	....	....	....	....	....	.....
35	....	....	....	....	....	....	....	....	....	....	....	....	.....
30	....	1	....	....	....	....	....	1	1	1	....	....	3
25	1	....	....	....	....	....	....	....	....	....	....	1	.....
20	1	1	1	....	....	...	1	....	1	....	2	....	.....
15	....	....	....	....	....	2	1	3	1	....	....	1	1
	399	198	484	520	387	298	269	194	326	433	249	102	75

(No. 54.)

STATEMENT showing the quantity and tons of, and the tolls paid on, each article transported on all the canals, from 1861 *to* 1876, *both years inclusive.*

ARTICLES.	1861.			1862.		
	Quantity.	Tons.	Tolls.	Quantity.	Tons.	Tolls.
THE FOREST.						
Fur and peltry, lbs.	310, 000	155	$81	218,000	109	$79
Product of wood.						
Boards and scantling, feet	355,365,000	592,274	247,801	503,593,800	839,323	436,092
Shingles, M	101,448	12,681	8,353	131,064	16,383	10,744
Timber, cubic feet	4,575,550	91,511	36,800	6,673,200	133,404	79,808
Staves, lbs	306,176,000	153,088	94,133	379,536,000	189,768	120,848
Wood, cords	71,730	200,844	10,415	138,417	387,569	20,895
Ashes, pot and pearl, bbls.	6,684	1,838	1,064	11,120	3,058	967
Total of the forest	....	1,052,392	$398,647	....	1,569,674	$699,433
AGRICULTURE.						
Product of animals.						
Pork, bbls.	15,500	2,480	$1,824	193,606	30,977	34,391
Beef, bbls.	25,968	4,155	4,693	83,031	13,285	15,611
Bacon, lbs.	562,000	281	160	5,904,000	2,952	1,804
Cheese, lbs.	11,676,000	5,838	2,823	11,028,000	5,514	2,523
Butter, lbs	5,210,000	2,605	1,483	7,968,000	3,984	1,973
Lard, tallow and lard oil, lbs	1,352,000	676	539	10,024,000	5,012	4,483

Wool, lbs	2,262,000	1,131	1,125	3,020,000	1,510	1,315
Hides, lbs	4,232,000	2,116	1,485	10,070,000	5,035	3,366
Total product of animals	....	19,282	$14,132	....	68,269	$65,166
Vegetable food.						
Flour, bbls.	1,677,416	180,081	$198,457	2,102,574	227,078	$395,578
Wheat, bush	32,171,900	995,157	1,368,423	37,579,967	1,127,399	1,882,767
Rye, bush	976,000	27,328	28,596	967,750	27,097	40,231
Corn, bush	25,024,643	700,690	1,062,593	27,225,643	761,318	1,176,702
Corn meal, bbls	2,176	225	105	18,416	1,989	2,170
Barley, bush	2,446,083	58,658	62,861	2,764,916	66,358	61,071
Barley malt, bush	....	....	....	280,182	4,623	5,689
Oats, bush	6,105,313	97,685	99,605	6,550,187	104,803	111,804
Bran and ship stuffs, lbs	45,298,000	22,649	17,104	35,494,000	17,747	11,759
Peas and beans, bush	347,233	10,417	9,965	375,433	11,263	11,619
Apples, bbls	....	....	....	439,346	32,951	25,843
Potatoes, bush	947,733	28,432	7,244	1,285,867	38,576	11,189
Dried fruit, lbs	1,810,000	905	1,893	792,000	396	696
Total vegetable food	....	2,122,237	$6,856,846	....	2,422,598	$3,637,118
All other agricultural products.						
Cotton, lbs	1,278,000	639	$111	508,000	254	$49
Unmanufactured tobacco, lbs	3,100,000	1,550	649	2,552,000	1,276	504
Hemp, lbs	274,000	137	35	176,000	88	10
Clover and grass seed, lbs	215,000	107	145	628,000	314	622

STATEMENT No. 54—(*Continued*).

ARTICLES.	1861.			1862.		
	Quantity.	Tons.	Tolls.	Quantity.	Tons.	Tolls.
Flax seed, lbs	234,000	117	$117	1,692,000	846	$847
Hops, lbs	608,000	304	163	782,000	391	176
Total all other agri'l prod'ts	....	2,854	$1,220	....	3,169	$2,208
Total agriculture	....	2,144,373	$2,872,198	....	2,494,036	$3,704,791
MANUFACTURES.						
Domestic spirits, gallons	2,461,000	9,844	$11,311	2,261,750	9,047	$11,199
Oil meal and cake, lbs	11,606,000	5,803	7,236	9,186,000	4,593	5,679
Leather, lbs	6,588,000	3,294	1,853	7,742,000	3,871	1,583
Furniture, lbs	5,754,000	2,877	3,623	6,204,000	3,102	3,188
Bar and pig lead, lbs	10,738,000	5,369	1,576	7,216,000	3,608	2,509
Pig iron, lbs	57,274,000	28,637	12,711	98,332,000	49,166	22,830
Bloom and bar iron, lbs	8,580,000	4,290	1,353	15,462,000	7,731	1,835
Castings and ironware, lbs	16,606,000	8,303	12,144	22,454,000	11,227	15,928
Domestic woolens, lbs	104,000	52	33	218,000	109	66
Domestic cottons, lbs	368,000	184	52	418,000	209	82
Domestic salt, lbs	416,322,000	208,116	40,769	469,850,000	234,925	49,129
Foreign salt, lbs	6,974,000	3,487	3,163	74,578,000	37,289	47,528
Total manufactures	....	280,256	$95,722	....	3,648,877	$161,556
MERCHANDISE.						
Sugar, lbs	46,040 000	23,020	$11,311	58,828,000	29,414	$10,175

Molasses, lbs	21,468,000	10,734	4,092	21,410,000	10,705	3,803
Coffee, lbs	4,892,000	2,446	1,479	4,558,000	1,179	1,023
Nails, spikes and horseshoes, lbs.	14,510,000	7,255	1,851	15,258,000	7,629	1,817
Iron and steel, lbs	12,870,000	6,435	1,855	20,844,000	10,442	2,380
Railroad iron, lbs	15,776,000	7,888	4,797	15,550,000	7,775	7,883
Flint, enamel, crockery and glassware, lbs	7,414,000	3,707	1,858	10,306,000	5,153	8,614
All other merchandise, lbs	147,222,000	73,611	80,715	190,100,000	95,050	81,749
Total merchandise	....	135,096	$107,958	....	167,927	$117,444
OTHER ARTICLES.						
Live cattle, hogs and sheep, lbs.	260,000	130	$28	96,000,000	48	$50
Stone, lime and clay, lbs	233,356,000	116,678	17,882	230,588,000	115,294	22,093
Gypsum, lbs	85,122,000	42,561	5,909	75,798,000	37,899	5,661
Mineral coal, lbs	1,084,300,000	542,150	112,155	....	....	....
Anthracite coal, lbs	....	....	....	874,652,000	437,326	88,807
Bituminous coal, lbs	....	....	....	398,788,000	199,394	39,811
Copper ore, lbs	6,826,000	3,413	1,204	6,326,000	3,163	2,278
Iron ore, lbs	....	....	....	276,234,000	138,117	29,241
Sundries, lbs	381,172,000	190,586	89,129	142,060,000	71,030	56,494
Total other articles	....	895,518	$226,336	....	1,002,271	$244,435
Total	....	4,507,635	$3,700,861	....	5,598,785	$4,927,660
Add tolls on boats and pass'gers	....	....	207,924	....	....	261,283
Total tolls	....	....	$3,908,785	....	....	$5,188,943

STATEMENT No. 54—(*Continued*).

ARTICLES.	1863.			1864.		
	Quantity.	Tons.	Tolls.	Quantity.	Tons.	Tolls.
THE FOREST.						
Fur and peltry, lbs.	340, 000	170	$31	48, 000	24	$4
Product of wood.						
Boards and scantling, feet	553, 217, 400	922, 029	448, 515	563, 477, 400	939, 129	591,910
Shingles, M.	86, 840	10, 855	6, 931	79, 448	9, 931	7, 022
Timber, cubic feet	8, 560, 650	171, 213	104, 938	5, 844, 000	116, 880	108, 586
Staves, lbs.	348, 464, 000	174, 232	135, 006	320, 552, 000	160, 276	150, 085
Wood, cords	124,687	349, 123	18, 507	89, 807	251, 460	14, 447
Ashes, pot and pearl, bbls	3, 876	1, 066	1, 131	4, 440	1, 221	369
Total of the forest	....	1, 628, 688	$715, 059	....	1, 478, 921	$872, 423
AGRICULTURE.						
Product of animals.						
Pork, bbls	282,325	45, 172	$49, 886	77, 806	12, 449	$14, 930
Beef, bbls	92, 494	14, 799	19, 352	104, 956	16, 794	19, 789
Bacon, lbs	3, 712, 000	1, 856	1, 139	764, 000	382	181
Cheese, lbs	11, 228, 000	5, 614	2, 464	7, 796, 000	3, 898	1, 691
Butter, lbs	6, 812, 000	3, 406	1, 814	2, 248	1, 124	606
Lard, tallow and lard oil, lbs	21, 302, 000	10, 651	10, 457	3, 794	1, 897	1, 633

Wool, lbs	2, 664, 000	1, 332	735	3, 370	1, 685	1, 422
Hides, lbs	9, 590, 000	4, 795	3, 579	10, 538	5, 269	4, 430
Total product of animals	....	87, 625	$89, 426	....	43, 498	$44, 682
Vegetable food.						
Flour, bbls	1, 930, 731	208, 519	$282, 182	1, 474, 582	159, 255	$202, 769
Wheat, bush	26, 577, 166	797, 315	1, 275, 680	19, 932, 067	597, 962	972, 877
Rye, bush	592, 571	16, 592	34, 488	670, 178	18, 765	30, 642
Corn, bush	22, 287, 036	624, 037	955, 226	11, 086, 536	310, 423	486, 932
Corn meal, bbls	44, 704	4, 828	5, 224	51, 305	5, 541	2, 699
Barley, bush	3, 816, 458	91, 595	93, 477	3, 232, 292	77, 575	74, 525
Barley malt, bush	366, 242	6, 043	6, 963	565, 294	9, 610	10, 556
Oats, bush	16, 040, 937	256, 655	250, 729	15, 122, 937	241, 967	342, 913
Bran and ship stuffs, lbs	45, 282, 000	22, 641	15, 701	41, 872, 000	20, 936	15, 349
Peas and beans, bush	530, 700	15, 921	18, 675	550, 000	16, 500	19, 369
Apples, bbls	854, 440	64, 083	60, 756	373, 026	27, 977	23, 546
Potatoes, bush	1, 173, 233	35, 197	12, 496	1, 234, 433	37, 033	12, 612
Dried fruit, lbs	1, 316, 000	658	1, 226	674, 000	337	526
Total vegetable food	....	2, 144, 084	$3, 012, 823	....	1, 523, 881	$2,195, 315
All other agricultural products.						
Cotton, lbs	304, 200	152	$22	424, 000	212	$23
Unmanufactured tobacco, lbs	770, 000	385	81	854, 000	427	140
Hemp, lbs	470, 000	235	48	572, 000	286	47
Clover and grass seed, lbs	724, 000	362	705	580, 000	290	1, 022

STATEMENT No. 54—(*Continued*).

ARTICLES.	1863.			1864.		
	Quantity.	Tons.	Tolls.	Quantity.	Tons.	Tolls.
Flax seed, lbs.	5,844,000	2,922	$3,168	8,046,000	4,023	$5,057
Hops, lbs	620,000	310	170	438,000	219	66
Total all other agri'l products	....	4,366	$4,194	....	5,457	$6,355
Total agricultural products..	....	2,236,075	$3,106,443	....	1,572,836	$2,246,352
MANUFACTURES.						
Domestic spirits, gallons	3,334,750	13,339	$16,248	2,563,000	10,252	$14,291
Oil meal and cake, lbs.	7,538,000	3,769	5,441	11,986,000	5,948	7,519
Leather, lbs	8,474,000	4,237	2,030	7,106,000	3,553	1,576
Furniture, lbs	7,256,000	3,628	3,917	6,270,000	3,135	4,298
Bar and pig lead, lbs	7,110,000	3,555	2,594	2,472,000	1,236	740
Pig iron, lbs	97,588,000	48,794	29,614	70,018,000	35,009	24,364
Bloom and bar iron, lbs	18,636,000	9,318	2,484	24,354,000	12,177	3,615
Castings and ironware, lbs	25,726,000	12,863	18,947	24,236,000	12,118	19,740
Domestic woolens, lbs	20,000	10	7	42,000	21	11
Domestic cottons, lbs	32,000	166	31	398,000	199	84
Domestic salt, lbs	419,996,000	209,998	47,660	384,124,000	192,062	65,979
Foreign salt, lbs	19,510,000	9,755	8,044	13,288,000	6,644	5,530
Total manufactures	....	319,432	$137,017	....	282,354	$147,747
MERCHANDISE.						
Sugar, lbs	41,912,000	20,956	$7,590	23,434,000	11 717	$3,367

Molasses, lbs.	19,998,000	9,999	3,616	17,224,000	8,612	3,203
Coffee, lbs.	1,582,000	791	786	858,000	429	403
Nails, spikes and horseshoes, lbs.	11,780,000	5,890	1,400	6,782,000	3,391	1,248
Iron and steel, lbs.	25,620,000	12,810	3,110	10,410,000	5,205	1,605
Railroad iron, lbs	70,524,000	35,262	37,640	77,956,000	29,978	43,862
Flint, enamel, crockery and glassware, lbs	10,528,000	5,264	2,631	8,514,000	4,257	1,948
All other merchandise, lbs.	162,612,000	81,306	80,480	140,790,000	70,395	62,056
Total merchandise	....	172,278	$137,253	....	143,984	$117,692
OTHER ARTICLES.						
Live cattle, hogs and sheep, lbs.	104,000	52	$22	170,000	85	$19
Stone, lime and clay, lbs.	304,294,000	152,147	31,160	353,740,000	176,870	36,195
Gypsum, lbs.	91,806,000	45,903	6,961	67,546,000	33,773	8,749
Mineral coal, lbs.	....	....	....	....	....	....
Anthracite coal, lbs.	996,372,000	498,136	115,871	971,164,000	485,582	140,581
Bituminous coal, lbs.	469,042,000	234,521	44,732	738,962,000	369,481	89,726
Copper ore, lbs.	5,742,000	2,871	4,753	3,442,000	1,721	17,643
Iron ore, lbs.	297,052,000	148,526	27,264	362,428,000	181,214	19,445
Sundries, lbs,	238,126,000	119,063	76,324	252,240,000	126,120	71,864
Total other articles	....	1,201,219	$307,087	....	1,374,846	$384,222
Total	....	5,559,692	$4,402,859	....	4,852,941	$3,968,436
Add tolls on boats and pas'gers	....	....	242,348	....	....	215,546
Total tolls	....	....	$4,645,207	....	....	$3,983,982

STATEMENT No. 54—(*Continued*).

ARTICLES.	1865.			1866.		
	Quantity.	Tons.	Tolls.	Quantity.	Tons.	Tolls.
THE FOREST.						
Fur and peltry, lbs	220,000	110	$27	836,000	418	$275
Product of wood.						
Boards and scantling, feet	561,099,000	935,165	505,262	722,081,400	1,203,469	698,696
Shingles, M	71,560	8,945	6,385	163,528	20,441	9,840
Timber, cubic feet	7,060,100	141,202	98,296	8,038,900	160,778	77,842
Staves, lbs	268,786,000	134,393	116,562	304,784,000	152,374	140,530
Wood, cords	87,669	245,474	13,902	82,816	231,884	13,258
Ashes, pot and pearl, bbls	7,367	2,026	868	2,299	630	247
Total of the forest	....	1,467,315	$741,302	....	1,769,994	$940,688
AGRICULTURE.						
Product of animals.						
Pork, bbls	27,944	4,471	$4,218	11,100	1,776	$663
Beef, bbls	9,450	1,512	1,997	2,443	391	562
Bacon, lbs	1,596,000	798	493	66,000	33	3
Cheese. lbs	21,890,000	10,945	4,811	15,468,000	7,734	3,210
Butter, lbs	2,314,000	1,157	673	1,180,000	590	336
Lard, tallow and lard oil, lbs	2,316,000	1,158	1,048	298,000	149	75

Wool, lbs.	2,044,000	1,022	1,005	2,952,000	1,476	626
Hides, lbs.	12,356,000	6,178	4,525	13,322,000	6,661	4,891
Total product of animals.	....	27,241	$18,770	....	18,810	$10,366
Vegetable food.						
Flour, bbls.	1,271,129	137,282	$162,919	751,870	81,202	$84,006
Wheat, bush	14,433,566	433,007	626,154	10,989,800	329,694	442,345
Rye, bush.	1,220,714	34,180	54,596	1,751,928	49,054	80,305
Corn, bush.	20,689,500	379,306	920,084	28,904,143	809,316	1,293,628
Corn meal, bbls.	24,018	2,594	2,465	17,972	1,941	1,945
Barley, bush	5,336,416	128,074	136,644	7,867,041	188,809	238,768
Barley malt, bush.	725,151	11,965	15,789	298,212	9,841	12,714
Oats, bush	11,973,937	191,583	262,823	12,138,250	194,212	288,007
Bran and ship stuffs, lbs.	48,304,000	24,152	17,031	48,762,000	24,381	17,449
Peas and beans, bush	401,533	12,046	14,258	536,667	16,100	21,739
Apples, bbls.	757,906	56,483	47,518	232,373	17,428	16,993
Potatoes, bush.	17,158,000	51,474	18,066	1,394,233	41,827	14,287
Dried fruit, lbs	382,000	191	267	252,000	126	100
Total vegetable food.	....	1,662,697	$2,281,614	....	1,763,931	$2,512,286
All other vegetable products.						
Cotton, lbs.	1,530,000	765	$234	2,060,000	1,030	$221
Unmanufactured tobacco, lbs.	1,598,000	799	230	1,010,000	505	137
Hemp, lbs	424,000	212	47	120,000	60	16
Clover and grass seed, lbs.	704,000	352	466	810,000	405	876

STATEMENT No. 54 — (*Continued*).

ARTICLES.	1865.			1866.		
	Quantity.	Tons.	Tolls.	Quantity.	Tons.	Tolls.
Flax seed, lbs	7,022,000	3,511	$2,916	1,848,000	924	$625
Hops, lbs	1,028,000	514	134	790,000	395	123
Total all other agri'l prod'ts	....	6,153	$4,027	....	3,319	$1,998
Total agricultural products	....	1,606,091	$2,304,411	....	1,786,060	$2,524,650
MANUFACTURES.						
Domestic spirits, gallons	521,000	2,084	$2,533	232,500	930	$647
Oil meal and cake, lbs	9,358,000	4,679	5,809	4,190,000	2,095	2,800
Leather, lbs	8,680,000	4,340	1,419	10,230,000	5,115	1,898
Furniture, lbs	6,156,000	3,078	2,907	5,990,000	2,995	2,750
Bar and pig lead, lbs	11,464,000	5,732	1,673	524,000	262	300
Pig iron, lbs	78,004,000	39,002	23,774	102,168,000	51,084	39,050
Bloom and bar iron, lbs	23,794,000	11,987	3,903	23,236,000	11,618	3,092
Castings and ironware, lbs	26,642,000	13,321	22,827	31,658,000	15,829	26,955
Domestic woolens, lbs	200,000	100	20	348,000	174	35
Domestic cottons, lbs	610,000	305	86	604,000	302	102
Domestic salt, lbs	374,074,000	187,037	70,543	414,332,000	207,166	73,168
Foreign salt, lbs	20,514,000	10,257	8,596	9,342,000	4,671	2,485
Total manufactures	....	281,832	$144,090	....	302,241	$153,372
MERCHANDISE.						
Sugar, lbs	24,536,000	12,268	$6,733	39,526,000	19,768	$6,853

Molasses, lbs	19,368,000	9,684	4,466	17,810,000	8,905	3,229
Coffee, lbs	1,880,000	940	938	1,190,000	595	405
Nails, spikes and horseshoes, lbs.	7,674,000	3,837	1,424	12,304,000	6,152	1,563
Iron and steel, lbs	5,880,000	2,940	988	12,398,000	6,199	1,399
Railroad iron, lbs	55,046,000	27,523	32,132	80,864,000	40,432	43,703
Flint, enamel, crockery and glassware, lbs	9,100,000	4,550	2,170	8,368,000	4,184	1,547
All other merchandise, lbs	186,452,000	93,226	63,028	187,296,000	93,648	72,317
Total merchandise	....	154,968	$111,879	....	179,878	$131,021
OTHER ARTICLES.						
Live cattle, hogs and sheep, lbs.	180,000	90	$90	92,000	46	$34
Stone, lime and clay, lbs	360,708,000	180,354	37,033	470,202,000	235,101	47,314
Gypsum, lbs	73,022,000	36,511	8,106	119,448,000	59,724	10,795
Mineral coal, lbs	....	....	....	....	....	....
Anthracite coal, lbs	866,304,000	433,152	125,247	1,381,224,000	690,612	207,948
Bituminous coal, lbs	575,062,000	287,531	87,809	892,002,000	446,001	86,807
Copper ore, lbs	2,698,000	1,349	909	4,146,000	2,073	1,431
Iron ore, lbs	189,886,000	94,943	14,926	367,874,000	183,937	28,675
Sundries, lbs	191,036,000	95,518	70,549	239,106,000	119,553	75,436
Total other articles	....	1,129,448	$344,669	....	1,737,047	$458,440
Total	....	4,729,654	$3,646,351	....	5,775,200	$4,208,171
Add tolls on boats and pass'gers	....	....	193,064	....	....	228,468
Total tolls	....	....	$3,839,955	....	....	$4,436,639

STATEMENT No. 54—(*Continued*).

ARTICLES.	1867.			1868.		
	Quantity.	Tons.	Tolls.	Quantity.	Tons.	Tolls.
THE FOREST.						
Fur and peltry, lbs.	566,000	283	$184	22,000	11	$47
Products of wood.						
Boards and scantling, feet	786,003,600	1,310,006	777,568	880,224,000	1,467,040	848,598
Shingles, M.	116,304	14,538	8,974	136,608	17,076	11,490
Timber, cubic feet	5,537,110	110,742	80,231	4,334,400	86,688	53,541
Staves, lbs	321,694,000	160,847	143,637	437,684,000	218,842	152,901
Wood, cords	48,353	135,387	8,503	54,560	152,769	8,174
Ashes, pot and pearl, bbls.	45,269	12,449	530	57,756	15,883	686
Total of the forest	....	1,744,252	$1,019,627	....	1,958,309	$1,075,437
AGRICULTURE.						
Product of animals.						
Pork, bbls	5,687	910	$388	5,112	818	$330
Beef, bbls.	1,713	274	91	2,194	351	142
Bacon, lbs	92,000	46	197	....	....	....
Cheese, lbs	13,400,000	6,700	2,169	15,352,000	7,676	1,830
Butter, lbs	1,494,000	747	225	1,942,000	971	215
Lard, tallow and lard oil, lbs.	1,754,000	877	683	1,214,000	607	543

Wool, lbs	1,862,000	931	470	2,248,000	1,124	468
Hides, lbs	12,258,000	6,129	4,575	13,058,000	6,529	3,749
Total product of animals	....	16,614	$8,798	....	18,076	$7,277
Vegetable food.						
Flour, bbls	569,334	61,497	$67,920	575,898	62,197	$56,551
Wheat, bush	13,630,300	408,909	639,429	14,425,567	432,767	665,403
Rye, bush	1,044,643	29,250	48,773	873,357	24,454	40,494
Corn, bush	4,468,649	502,054	771,376	18,437,107	516,239	784,613
Corn meal, bbls	12,808	1,383	878	14,861	1,605	838
Barley, bush	4,972,250	119,334	149,413	3,698,083	88,754	95,007
Barley malt, bush	479,818	7,917	7,645	257,029	4,488	8,936
Oats, bush	10,476,000	167,616	273,493	11,927,156	190,836	303,382
Bran and ship stuffs, lbs	25,266,000	12,633	8,106	32,362,000	16,181	10,337
Peas and beans, bush	827,133	24,814	31,498	391,667	11,750	13,126
Apples, bbls	566,653	42,499	40,226	420,307	31,523	25,100
Potatoes, bush	1,262,067	37,862	12,281	1,043,100	31,293	13,121
Dried fruit, lbs	238,000	119	264	176,000	88	143
Total vegetable food	....	1,415,887	$2,051,302	....	1,419,175	$2,017,051
All other agricultural products.						
Cotton, lbs	1,564,000	782	$224	1,406,000	703	$133
Unmanufactured tobacco, lbs	1,044,000	522	112	436,000	218	256
Hemp, lbs	52,000	26	2	4,000	2	....
Clover and grass seed, lbs	1,190,000	595	1,495	924,000	462	1,017

STATEMENT No. 54—(*Continued*).

ARTICLES.	1867.			1868.		
	Quantity.	Tons.	Tolls.	Quantity.	Tons.	Tolls.
Flax seed, lbs	7,906,000	3,953	$4,050	6,838,000	3, 419	$3,298
Hops, lbs	276,000	138	99	184,000	92	21
Total all other agr'l products	....	6,016	$5,982	....	4, 896	$4,725
Total agricultural products	....	1,438,517	$2,066,082	....	1, 442,147	$2,029, 053
MANUFACTURES.						
Domestic spirits, gals	94,250	377	$266	84,500	338	$166
Oil meal and cake	4,938,000	2,469	3,237	2,244,000	2,122	938
Leather, lbs	11,206,000	5,603	1,973	10,770,000	5, 385	2, 174
Furniture, lbs	4,906,000	2,453	2,247	5,904,000	2,952	2,626
Bar and pig lead, lbs	998,000	499	306	224,000	112	99
Pig iron, lbs	92,980,000	46,490	28,144	118,868,000	59,434	34, 070
Bloom and bar iron, lbs	21,056,000	10,528	2,835	15,315,000	7,657	2,092
Castings and iron ware, lbs	32,670,000	16,335	30,329	40,414,000	20, 207	27, 603
Domestic woolens, lbs	310,000	155	69	284,000	142	72
Domestic cottons, lbs	672,000	336	111	918,000	459	158
Domestic salt, lbs	459,280,000	229,640	63,581	533, 520,000	266,760	69, 771
Foreign salt, lbs	11,918,000	5,959	4,690	15,388,000	7,694	6, 925
Total manufactures	....	320,844	$137,788	....	373,262	$146,694
MERCHANDISE.						
Sugar, lbs	33,326,000	16,663	$5,658	35,634,000	17,817	$7, 742

Molasses, lbs	16,066,000	8,033	3,199	22,646,000	11,323	4,082
Coffee, lbs	902,000	451	453	1,480,000	740	370
Nails, spikes and horseshoes, lbs.	10,882,000	5,441	1,652	8,424,000	4,212	1,332
Iron and steel, lbs	11,278,000	5,639	1,808	14,654,000	7,327	2,504
Railroad iron, lbs	146,900,000	73,450	70,556	299,470,000	149,735	98,371
Flint, enamel, crockery and glassware, lbs	12,378,000	6,189	2,297	11,424,000	5,712	2,574
All other merchandise, lbs	208,028,000	104,014	77,745	254,396,000	127,198	89,420
Total merchandise	....	219,880	$163,368	....	324,064	$206,395
OTHER ARTICLES.						
Live cattle, hogs and sheep, lbs.	192,000	96	$20	52,000	26	$12
Stone, lime and clay, lbs	487,660,000	243,830	52,764	474,560,000	237,280	56,115
Gypsum, lbs	84,920,000	42,460	13,001	113,894,000	56,947	13,035
Mineral coal, lbs	....	....	....	....	....	....
Anthracite coal, lbs	1,546,240,000	773,120	227,169	2,114,776,000	1,057,388	290,453
Bituminous coal, lbs	1,018,948,000	509,474	97,801	1,108,602,000	554,301	110,831
Copper ore, lbs	4,760,000	2,380	1,662	850,000	425	293
Iron ore, lbs	382,878,000	191,439	26,205	420,750,000	210,375	28,970
Sundries, lbs	402,066,000	201,033	79,695	455,402,000	227,701	99,978
Total other articles	....	1,964,832	$498,317	....	2,344,443	$599,687
Total	....	5,688,325	$3,885,182	....	6,442,225	$4,057,266
Add tolls on boats and pass'gers	....	....	202,876	....	....	189,297
Total tolls	....	....	$4,088,058	....	....	$4,246,563

STATEMENT No. 54—(*Continued*).

ARTICLES.	1869.			1870.		
	Quantity.	Tons.	Tolls.	Quantity.	Tons.	Tolls.
THE FOREST.						
Fur and peltry, lbs	22,000	11	$14	2,000	1	....
Product of wood.						
Boards and scantling, feet	902,850,000	1,504,750	888,048	935,967,600	1,599,946	$768,144
Shingles, M	126,416	15,802	9,386	141,008	17,628	10,097
Timber, cubic feet	5,801,350	116,027	53,307	4,270,300	85,406	54,632
Staves, lbs.	202,054,000	101,027	84,806	291,516,000	145,758	77,220
Wood, cords	32,498	90,995	5,358	35,054	98,150	5,369
Ashes, pot and pearl, bbls	99,338	27,318	476	34,982	9,624	2,086
Total of the forest	....	1,855,930	$1,041,395	....	1,916,513	$917,556
AGRICULTURE.						
Product of animals.						
Pork, bbls	3,325	532	$157	1,062	170	$44
Beef, bbls	150	24	11	1,325	212	52
Bacon, lbs	....	....	....	....	....	....
Cheese, lbs	8,046,000	4,023	1,673	10,432,000	5,216	1,610
Butter, lbs	1,110,000	555	164	758,000	379	136
Lard, tallow and lard oil	240,000	120	71	84,000	42	10

Wool, lbs....................	2,174,000	1,087	241	2,228,000	1,114	302
Hides, lbs....................	4,700,000	2,350	823	7,144,000	3,572	869
Total product of animals....	....	8,691	$3,140	....	10,705	$3,024
Vegetable food.						
Flour, bbls..................	657,870	71,051	$73,237	509,055	54,978	$29,171
Wheat, bush................	22,251,133	670,534	1,048,658	21,950,800	658,524	498,632
Rye, bush....................	481,750	13,489	13,009	697,143	19,520	13,783
Corn, bush	9,159,643	256,475	330,067	6,893,893	193,129	161,338
Corn meal, bbls.............	12,666	1,368	1,432	12,250	1,323	23
Barley, bush.................	4,125,500	99,012	105,354	5,132,958	123,191	73,706
Barley malt, bush...........	330,400	5,782	5,864	798,686	13,977	11,775
Oats, bush..................	5,769,312	92,309	114,532	7,371,312	117,941	93,833
Bran and ship stuffs, lbs.......	34,176,000	17,088	10,815	28,014,000	14,007	5,046
Peas and beans, bush	379,233	11,377	5,823	226,123	6,784	3,710
Apples, bbls................	510,213	38,266	36,805	896,547	67,241	50,850
Potatoes, bush..............	858,300	25,749	9,906	810,100	24,303	10,055
Dried fruit, lbs...............	226,000	113	52	180,000	90	42
Total vegetable food........	....	1,302,613	$1,755,554	....	1,295,008	$951,964
All other agricultural products.						
Cotton, lbs	752,000	376	$121	1,412,000	706	$136
Unmanufactured tobacco, lbs...	502,000	251	81	340,000	170	36
Hemp, lbs..................	68,000	34	4	44,000	22	9
Clover and grass seed, lbs.....	184,000	92	13	12,000	6	5

STATEMENT No. 54—(*Continued*).

ARTICLES.	1869.			1870.		
	Quantity.	Tons.	Tolls.	Quantity.	Tons.	Tolls.
Flax seed, lbs.	3,360,000	1,680	$459	4,916,000	2, 458	$1, 033
Hops, lbs.	668,000	334	109	152,000	76	20
Total all other agri'l products	....	2,767	$787	....	3, 438	$2, 239
Total agricultural products..	....	1,314,071	$1,759,481	....	1, 309, 151	$957, 227
MANUFACTURES.						
Domestic spirits, gallons	420,000	1,682	$345	143,250	673	$124
Oil meal and cake, lbs.	4,092,000	2,046	362	3,114,000	1, 557	195
Leather, lbs.	4,976,000	2,488	844	3,806,000	1, 903	518
Furnitnre, lbs.	4,248,000	2,124	724	2,684,000	1, 342	400
Bar and pig lead, lbs.	152,000	76	2,491	1,010,000	505	380
Pig iron, lbs.	83,968,000	41,984	10,720	90,178,000	45, 089	9, 115
Bloom and bar iron, lbs.	28,068,000	14,034	2,507	27,556,000	13, 778	2, 111
Castings and ironware, lbs.	28,396,000	14,198	10,579	20,872,000	10, 436	6, 554
Domestic woolens, lbs.	504,000	252	103	458,000	229	71
Domestic cottons, lbs.	1,404,000	702	208	690,000	345	156
Domestic salt, lbs.	517,854,000	258,927	73,722	526,874,000	263, 437	52, 390
Foreign salt, lbs.	7,452,000	3,726	1,784	6,606,000	3, 303	1, 145
Total manufactures	....	342,239	$104,389	....	342, 497	$73, 259
MERCHANDISE.						
Sugar, lbs.	26,412,000	13,206	$6,088	33,188,000	16, 594	$6, 658

Molasses, lbs.	15,250,000	7,625	3,252	21,158,000	10, 579	3, 269
Coffee, lbs.	928,000	464	272	918,000	459	222
Nails, spikes and horseshoes, lbs.	13,242,000	6,626	3,574	20,882,000	10, 441	3, 255
Iron and steel, lbs	5,620,000	2,810	1,591	19,928,000	9, 964	1,874
Railroad iron, lbs	275,354,000	137,677	96,859	271,860,000	135, 930	66, 123
Flint, enamel, crockery and glassware, lbs	12,664,000	6,332	2,972	9,714,000	4, 857	2, 140
All other merchandise, lbs.	188,460,000	94,230	51,552	166,064,000	83, 032	48, 614
Total merchandise	....	268,970	$166,160	....	271, 856	$132, 155
OTHER ARTICLES.						
Live cattle, hogs and sheeps, lbs.	62,000	31	$13	26,000	13	$8
Stone, lime and clay, lbs.	603,180,000	301,594	42,596	630,712,000	315, 356	38, 044
Gypsum, lbs.	122,662,000	61,331	7,185	68,796,000	34, 398	4, 787
Mineral coal, lbs	....	....	....	....	....	....
Anthracite coal, lbs	1,312,208,000	656,104	167,930	1,792,520,000	896, 260	115, 674
Bituminons coal, lbs	1,336,608,000	668,304	133,725	1,323,850,000	661, 925	82, 201
Copper ore, lbs.	554,000	277	207	....	....	....
Iron ore, lbs.	367,984,000	183,992	24,385	477,604,000	238, 802	18, 946
Sundries, lbs.	412,482,000	206,241	160,401	373,996,000	186, 998	96, 966
Total other articles	....	2,077,870	$536,442	....	2, 333, 752	$356, 656
Total	....	5,859,080	$3,607,867	....	6, 173, 769	$2,436, 753
Add tolls on boats and pass'gers	....	....	170,634	....	....	174, 825
Total tolls	....	....	$3,778,501	....	....	$2,611, 578

STATEMENT No. 54—(*Continued*).

ARTICLES.	1871.			1872.		
	Quantity.	Tons.	Tolls.	Quantity.	Tons.	Tolls.
THE FOREST.						
Fur and peltry, lbs..........	....	....	....	6,000	3	$1
Product of wood.						
Boards and scantling, feet.....	890,206,800	1,483,678	$710,137	1,003,032,600	1,671,721	749,548
Shingles, M.................	407,624	197,953	9,159	94,784	11,848	6,531
Timber, cubic feet............	3,476,300	69,526	48,301	3,479,250	69,585	40,697
Staves, lbs..................	195,196,000	97,598	52,273	229,148,000	114,574	72,622
Wood, cords :................	29,235	81,860	5,340	29,213	81,796	4,873
Ashes, pot and pearl, lbs......	38,843	10,682	2,134	4,622	1,271	313
Total of the forest.........	....	1,941,297	$827,344	....	1,950,798	$874,585
AGRICULTURE.						
Product of animals.						
Pork, bbls..................	4,106	657	$227	6,156	985	$87
Beef, bbls..................	1,275	204	62	10,200	1,632	94
Bacon, lbs..................	....	....	....	22,000	11	21
Cheese, lbs.................	6,394,000	3,197	861	3,094,000	1,547	457
Butter, lbs.................	204,000	102	48	54,000	27	12
Lard, tallow and lard oil, lbs...	422,000	211	51	104,000	52	118

Wool, lbs	2, 268,000	1,134	290	942, 000	471	116
Hides, lbs	6,276, 000	3,138	680	2, 028, 000	1, 014	385
Total product of animals	....	8,643	$2, 219	....	5,739	$1,290
Vegetable food.						
Flour, bbls	381,583	41,211	$20,770	190, 129	20, 534	$8, 433
Wheat, bush	24,951,633	748,549	558,227	13, 463, 433	403, 903	231, 841
Rye, bush	1,234,392	34,563	30,911	477, 036	13, 357	9, 654
Corn, bush	24,002,035	672,057	565,722	32, 241, 179	902, 753	896, 854
Corn meal, bbls	6,611	714	44	6, 046	653	207
Barley, bush	4,749,662	113,992	68,374	5, 002, 542	120, 061	79, 873
Barley malt, bush	801,371	14,024	12,824	1, 578, 914	27, 631	17, 147
Oats, bush	8,118,187	129,891	108,184	5, 809, 938	92, 959	82, 430
Bran and ship stuffs, lbs	21,478,000	10,739	4,741	22, 622, 000	11, 331	3, 627
Peas and beans, bush	162,700	4,881	2,443	146, 600	4, 398	1, 707
Apples, bbls	531,266	39,845	42,825	449, 254	33, 694	27, 125
Potatoes, bush	1,347,800	39,534	7,452	1, 431, 200	42, 936	10, 279
Dried fruit, lbs	396, 000	198	101	220, 000	110	137
Total vegetable food	....	1, 850, 198	$1,422, 636	....	1, 674, 320	$1,469, 314
All other agricultural products.						
Cotton, lbs	1, 266,000	633	$182	1, 556, 000	778	$89
Unmanufactured tobacco, lbs	302,000	151	34	260, 000	130	48
Hemp, lbs	10, 000	5	....	110, 000	55	9
Clover and grass seed, lbs	60,000	30	24	....	....	98

STATEMENT No. 54 — (*Continued*).

ARTICLES.	1871.			1872.		
	Quantity.	Tons.	Tolls.	Quantity.	Tons.	Tolls.
Flax seed, lbs.	10,230,000	4,115	$3,349	5,832,000	2,916	$2,034
Hops, lbs.	186,000	93	27	48,000	24	8
Total all other agr'l products.	....	5,027	$3,616	....	3,903	$2,286
Total agriculture.	....	1,863,868	$1,428,471	....	1,683,962	$1,472,890
MANUFACTURES.						
Domestic spirits, gals.	165,750	423	$114	64,250	257	$39
Oil meal and cake, lbs.	3,888,000	1,944	247	4,042,000	2,021	273
Leather, lbs.	2,188,000	1,094	255	874,000	437	102
Furniture, lbs.	2,496,000	1,248	416	1,190,000	595	231
Bar and pig lead, lbs.	960,000	480	924	380,000	190	252
Pig iron, lbs.	114,418,000	57,209	8,949	110,246,000	55,123	8,476
Bloom and bar iron, lbs.	31,092,000	15,546	2,175	22,330,000	11,165	1,676
Castings and iron ware, lbs.	16,512,000	8,256	5,538	14,266,000	7,133	3,716
Domestic woolens, lbs.	1,220,000	610	101	40,000	20	3
Domestic cottons, lbs.	1,538,000	769	61	130,000	65	14
Domestic salt, lbs.	492,440,000	246,220	59,643	488,444,000	244,222	54,978
Foreign salt, lbs	4,978,000	2,489	1,094	8,672,000	4,336	1,821
Total manufactures.	....	336,288	$79,517	....	325,564	$71,581
MERCHANDISE.						
Sugar, lbs.	25,596,000	12,798	$5,387	30,268,000	15,134	$5,169

Molasses, lbs	16,234,000	8,117	2,455	21,954,000	10,977	2,597
Coffee, lbs	910,000	405	200	746,000	373	288
Nails, spikes and horseshoes, lbs.	18,658,000	9,329	2,715	18,818,000	9,409	3,319
Iron and steel, lbs	19,940,000	9,970	1,678	28,332,000	14,166	3,425
Railroad iron, lbs	356,538,000	178,269	97,170	323,334,000	161,667	97,914
Flint, enamel, crockery and glassware, lbs	8,854,000	4,427	1,908	8,356,000	4,178	1,712
All other merchandise	130,226,000	65,113	28,686	165,708,000	82,854	46,279
Total merchandise	....	288,428	$140,199	....	298,758	$160,703
OTHER ARTICLES,						
Live cattle, hogs and sheep, lbs.	16,000	8	$17	4,000	2	$1
Stone, lime and clay, lbs	686,508,000	343,254	40,162	796,376,000	398,188	40,474
Gypsum, lbs	72,668,000	36,334	3,957	81,070,000	40,535	5,686
Mineral coal, lbs	....	....	....	1,873,586,000	....	111,979
Anthracite coal, lbs	1,204,088,000	602,044	71,990	1,051,594,000	936,793	64,771
Bituminous coal, lbs	183,986,000	591,993	68,151	....	525,797	....
Copper ore, lbs	246,000	123	1	....	....	....
Iron ore, lbs	579,904,000	289,952	24,443	755,184,000	377,592	32,571
Sundries, lbs	348,598,000	174,299	229,165	270,762,000	135,381	41,141
Total other articles	....	2,038,007	$437,886	....	2,414,288	$296,558
Total	....	6,467,888	$2,913,417	....	6,673,370	$2,876,317
Add tolls on boats and pass'gers	....	....	187,421	....	....	196,094
Total tolls	....	....	$3,100,838	....	....	$3,072,411

STATEMENT No. 54.—(*Continued*).

ARTICLES.	1873.			1874.		
	Quantity.	Tons.	Tolls.	Quantity.	Tons.	Tolls.
THE FOREST.						
Fur and peltry, lbs	56,000	28	$13	....	....	... .
Product of wood.						
Boards and scantling, feet	780,359,400	1,300,599	632,369	730,347,000	1,217,245	$581,855
Shingles, M	57,720	7,215	4,768	83,888	10,486	7,926
Timber, cubic feet	3,613,050	72,261	48,582	4,126,850	82,537	62,092
Staves, lbs	223,776,000	111,888	68,527	194,438,000	97,219	60,769
Wood, cords	31,926	89,392	5,589	26,586	74,441	5,690
Ashes, pot and pearl, bbls	2,506	689	258	3,000	825	95
Total of the forest	....	1,582,072	$760,106	....	1,482,753	$718,427
AGRICULTURE.						
Product of animals.						
Pork, bbls	919	147	$22	944	151	$19
Beef, bbls	....	....	....	19	3	1
Bacon, lbs	16,000	8	4	....	....	....
Cheese, lbs	2,852,000	1,426	329	3,262,000	1,631	395
Butter, lbs	20,000	10	7	42,000	21	9
Lard, tallow and lard oil, lbs	42,000	21	8	156,000	78	19

Wool, lbs	1,420,000	710	166	880,000	440	87
Hides, lbs	982,000	491	219	468,000	234	104
Total product of animals	....	2,813	$755	....	2,558	$634
Vegetable food.						
Flour, lbs	181,731	19,307	$8,563	269,759	29,134	$12,116
Wheat, bush	26,768,800	803,064	736,199	25,738,766	772,163	695,003
Rye, bush	1,077,143	30,160	25,760	293,393	8,215	4,504
Corn, bush	22,760,571	637,296	602,329	18,542,964	519,203	500,297
Corn meal, bbls	9,342	1,009	169	8,314	898	162
Barley, bush	2,941,083	70,586	42,233	4,110,584	98,654	42,264
Barley malt, bush	1,182,466	17,737	12,923	453,200	6,798	7,215
Oats, bush	4,376,437	70,023	60,525	3,713,000	59,408	52,389
Bran and ship stuffs, lbs	18,534,000	9,267	3,245	8,376,000	4,188	1,147
Peas and beans, bush	393,300	11,799	2,327	200,566	6,017	4,280
Apples, bbls	422,347	34,176	40,779	676,320	50,724	38,507
Potatoes, bush	1,356,000	40,680	9,864	7,073,133	212,194	13,809
Dried fruit, lbs	134,000	67	61	4,000	2	100
Total vegetable food	....	1,745,171	$1,544,977	....	1,767,598	$1,371,793
All other agricultural products.						
Cotton, lbs	2,344,000	1,172	$118	870,000	435	$49
Unmanufactured tobacco, lbs	132,000	66	14	32,000	16	11
Hemp, lbs	144,000	72	8	98,000	49	5
Clover and grass seed, lbs	30,000	15	13	114,000	57	47

STATEMENT No. 54—(*Continued*).

ARTICLES.	1873.			1874.		
	Quantity.	Tons.	Tolls.	Quantity.	Tons.	Tolls.
Flax seed, lbs	2,206,000	1,103	$168	3,364,000	1,682	$465
Hops, lbs	12,000	6	2	376,000	188	9
Total all other agri'l products	....	2,434	$323	....	2,427	$586
Total agriculture	....	1,750,418	$1,546,055	....	1,772,583	$1,373,013
MANUFACTURES.						
Domestic spirits, gals	68,750	275	$31	41,750	167	$44
Oil meal and cake, lbs	4,440,000	2,220	334	4,918,000	2,459	358
Leather, lbs	364,000	182	39	426,000	213	43
Furniture, lbs	1,156,000	528	159	830,000	415	142
Bar and pig lead, lbs	240,000	120	30	346,000	173	174
Pig iron, lbs	53,808,000	26,904	4,064	80,784,000	40,392	5,253
Bloom and bar iron, lbs	24,230,000	12,115	1,614	55,670,000	22,835	3,319
Castings and iron ware, lbs	17,410,000	8,705	6,728	12,068,000	6,034	4,407
Domestic woolens, lbs	60,000	30	7	114,000	57	14
Domestic cottons, lbs	70,000	35	8	724,000	362	50
Domestic salt, lbs	425,460,000	212,730	53,615	335,602,000	167,801	45,542
Foreign salt, lbs	7,952,000	3,976	1,907	11,578,000	5,789	2,568
Total manufactures	....	267,820	$68,542	....	246,697	$61,914
MERCHANDISE.						
Sugar, lbs	30,596,000	15,298	$4,537	31,566,000	15,783	$5,453

Molasses, lbs	22,092,000	11,046	2,713	17,846,000	8,923	2,564
Coffee, lbs	688,000	344	157	932,000	416	193
Nails, spikes and horseshoes, lbs.	10,468,000	5,234	1,219	10,084,000	5,042	1,461
Iron and steel, lbs	19,246,000	9,623	2,118	17,304,000	8,652	2,325
Railroad iron, lbs	106,736,000	53,363	30,584	49,022,000	24,511	13,470
Flint, enamel, crockery and glassware, lbs	5,778,000	2,889	925	5,880,000	2,940	827
All other merchandise, lbs	150,386,000	75,193	37,393	131,828,000	65,914	33,817
Total	....	172,990	$79,646	....	132,181	$60,110
OTHER ARTICLES.						
Live cattle, hogs and sheep, lbs.	4,000	2	$2	2,000	1	$1
Stone, lime and clay, lbs	830,608,000	415,304	42,211	734,018,000	367,009	30,769
Gypsum, lbs	105,026,000	52,573	4,835	42,578,000	21,289	2,412
Mineral coal, lbs.	....	....	....	....	....	....
Anthracite coal, lbs	1,935,596,000	967,593	122,783	1,681,640,000	840,820	87,213
Bituminous coal, lbs	1,316,532,000	658,266	83,772	1,144,684,000	572,342	75,973
Copper ore, lbs	....	....	....	....	....	....
Iron ore, lbs	931,936,000	415,968	31,763	465,088,000	232,544	15,490
Sundries, lbs	173,672,000	81,836	47,203	272,738,000	136,369	51,394
Total other articles	....	2,591,482	$332,569	....	2,170,374	$263,252
Total	....	6,364,782	$2,786,918	....	5,804,588	$2,476,716
Add tolls on boats and pas'gers	....	....	189,800	....	....	160,355
Total tolls	....	....	$2,976,718	....	....	$2,637,071

STATEMENT No. 54—(*Continued*).

ARTICLES.	1875.			1876.		
	Quantity.	Tons.	Tolls.	Quantity.	Tons.	Tolls.
THE FOREST.						
Fur and peltry, lbs	....	....	....	....	....	....
Product of wood.						
Boards and scantling, feet	633,064,200	1,055,107	$302,274	607,155,000	1,011,925	$341,491
Shingles, M	71,648	8,956	4,945	55,752	6,969	3,981
Timber, cubic feet	2,717,550	54,351	22,100	1,559,650	31,193	18,793
Staves, lbs	100,778,000	50,389	29,384	74,712,000	37,356	19,364
Wood, cords	28,050,000	78,541	2,664	44,505	84,613	4,358
Ashes, pot and pearl, bbls	11,644	3,202	222	11,844	3,257	476
Total of the forest	....	1,250,546	$361,589	....	1,175,313	$388,463
AGRICULTURE.						
Product of animals.						
Pork, bbls	813	130	$18	650	104	$18
Beef, bbls	....	....	....	....	....	1
Bacon, lbs	....	....	....	....	....	....
Cheese, lbs	2,562,000	1,281	187	1,220,000	610	214
Butter, lbs	46,000	23	14	256,000	128	60
Lard, tallow and lard oil, lbs	60,000	30	12	152,000	76	16

Wool, lbs	262,000	131	22	522,000	261	37
Hides, lbs	1,316,000	658	398	1,434,000	717	354
Total product of animals	....	2,253	$651	....	1,896	$700
Vegetable food.						
Flour, bbls	163,287	17,635	$6,260	86,019	9,290	$1,634
Wheat, bush	24,809,766	744,293	466,662	13,879,200	416,376	249,232
Rye, bush	296,750	8,309	3,968	712,464	19,949	11,039
Corn, bush	10,072,536	282,031	185,680	13,044,786	365,254	239,169
Corn meal, bbls	3,000	324	58	232	25	35
Barley, bush	4,353,125	104,475	40,335	4,020,584	96,494	37,739
Barley malt, bush	71,287	12,475	5,798	1,510,629	26,436	6,137
Oats, bush	3,919,813	62,717	33,391	3,259,188	52,147	27,740
Bran and ship stuffs, lbs	7,290,000	3,645	717	11,264,000	5,632	1,341
Peas and beans, bush	195,200	5,856	2,909	174,200	5,226	2,886
Apples, bbls	508,200	35,574	15,186	460,069	33,355	12,635
Potatoes, bush	939,366	28,181	12,313	1,133,933	34,018	6,997
Dried fruit, lbs	70,000	35	11	182,000	91	39
Total vegetable food	....	1,305,550	$773,288	....	1,064,293	$596,623
All other agricultural products.						
Cotton, lbs	672,000	336	$29	1,048,000	524	$64
Unmanufactured tobacco, lbs	178,000	89	29	80,000	40	15
Hemp, lbs	106,000	53	7	40,000	20	5
Clover and grass seed, lbs	....	....	....	58,000	29	24

STATEMENT No. 54—(*Continued*).

ARTICLES.	1875.			1876.		
	Quantity.	Tons.	Tolls.	Quantity.	Tons.	Tolls.
Flax seed, lbs	6,598,000	3,299	$306	1,388,000	694	$154
Hops, lbs	66,000	33	6	2,000	1	....
Total all other agric'l prod'ts	....	3,810	$377	....	1,308	$262
Total agriculture	....	1,311,613	$774,316	....	1,067,497	$597,585
MANUFACTURES.						
Domestic spirits, gallons	70,500	282	$29	44,750	179	$17
Oil meal and cake, lbs	5,946,000	2,973	188	5,408,000	2,704	165
Leather, lbs	12,000	6	2	216,000	108	5
Furniture, lbs	912,000	456	168	640,000	320	145
Bar and pig lead, lbs	46,000	23	7	68,000	34	13
Pig iron, lbs	118,316,000	59,158	6,835	89,344,000	44,672	4,374
Bloom and bar iron, lbs	39,872,000	19,936	2,546	33,010,000	16,505	2,861
Castings and ironware, lbs	11,608,000	5,804	2,861	3,212,000	1,606	702
Domestic woolens, lbs	64,000	32	5	4,000	2	....
Domestic cottons, lbs	552,000	276	36	2,000	1	....
Domestic salt, lbs	368,504,000	184,252	54,080	221,930,000	110,965	28,975
Foreign salt, lbs	5,166,000	2,533	926	6,210,000	3,105	2,474
Total manufactures	....	275,731	$67,683	....	180,201	$39,731
MERCHANDISE.						
Sugar, lbs	15,380,000	7,690	$1,353	6,720,000	3,360	$613

Molasses, lbs	16,566,000	8,283	797	11,682,000	5,841	516
Coffee, lbs	370,000	185	61	142,000	71	36
Nails, spikes and horseshoes, lbs.	7,836,000	3,918	1,079	4,362,000	2,181	287
Iron and steel, lbs	12,978,000	6,489	1,322	8,972,000	4,486	768
Railroad iron, lbs	73,206,000	36,603	8,477	23,382,000	11,691	1,278
Flint, enamel, crockery and glassware, lbs	4,290,000	2,145	465	3,150,000	1,575	309
All other merchandise	89,656,000	44,828	13,820	71,476,000	35,738	10,426
Total merchandise	....	110,141	$27,374	....	64,943	$14,233
OTHER ARTICLES.						
Live cattle, hogs and sheep, lbs.	....	....	....	6,000	3	$28
Stone, lime and clay, lbs	551,038,000	275,519	$25,944	401,876,000	200,938	17,149
Gypsum, lbs	31,106,000	15,503	1,530	33,552,000	16,776	1,603
Mineral coal, lbs	....	....	....	....	....	....
Anthracite, coal, lbs	2,026,658,000	1,013,329	97,601	1,518,748,000	759,374	75,945
Bituminous coal, lbs	707,524,000	203,762	43,705	554,648,000	277,324	37,134
Copper ore, lbs	2,000	1	....	....	....	....
Iron ore, lbs	566,436,000	283,218	17,608	347,160,000	173,530	12,221
Sundries, lbs	240,990,000	120,495	40,185	512,460,000	256,230	39,121
Total other articles	....	1,911,827	$226,573	....	1,684,175	$183,201
Total	....	4,859,858	$1,457,535	....	4,172,129	$1,223,213
Add tolls on boats and pass'grs.	....	....	132,497	....	....	116,791
Total tolls	....	....	$1,590,032	....	....	$1,340,004

(No. 55)

STATEMENT showing the total tons and value, the tolls paid, and the relative proportion of tons, value and tolls of each class of property transported on all the canals during the year 1876.

CLASS OF PROPERTY.	QUANTITY.		VALUE.		TOLLS.	
	Tons.	Rate per cent.	Amount.	Rate per cent.	Amount.	Rate per cent.
Boats and passengers	....	......	....	......	$116,791	08.71
Product of the forest	1,175,313	28.17	$11,132,966	09.85	388,463	28.99
Agriculture: Product of animals	1,896	00.04	539,928	00.48	700	00.06
Vegetable food	1,064,293	25.51	31,739,420	28.07	596,623	44.52
All other agricultural products	1,308	00.03	160,509	00.14	262	00.02
Manufactures	180,201	04.32	3,375,119	02.98	39,731	02.96
Merchandise	64,943	01.56	31,069,375	27.47	14,233	01.06
Other articles	1,684,175	40.37	35,073,062	31.01	183,201	13.68
Total	4,172,129	100.00	$113,090,379	100.00	$1,340,004	100.00

(No. 56.)

STATEMENT showing the tons of each class of property transported on the canals during the year 1876, *the rate of toll, the number of tons moved one mile, and the amount of toll paid.*

CLASS OF ARTICLES.	1876.			
	Quantity in tons.	Rate of tolls per ton per mile.	Tons moved one mile.	Amount of toll paid.
		c. m. f.		
Boats and passengers	....	4 0 0	....	$116,791
The Forest.				
Fur and peltry	....	0 4 0	....	....
Product of wood.				
Boards and scantling	1,011,925	0 6 0	56,915,166	341,491
Shingles	6,969	0 1 0	3,981,000	3,981
Timber	31,193	0 5 0	3,758,600	18,793
Staves	37,356	0 2 0	9,682,000	19,364
Wood	84,613	0 1 5	2,905,333	4,358
Ashes, pot and pearl	3,257	0 3 0	158,666	476
Total of the forest	1,175,313	......	77,400,765	$388,463
Agriculture.				
Product of animals.				
Pork	104	0 3 0	6,000	$18
Beef	....	0 2 0	500	1

STATEMENT No. 56—(*Continued*).

CLASS OF ARTICLES.	1876.			
	Quantity in tons.	Rate of tolls per ton per mile.	Tons moved one mile.	Amount of toll paid.
		c. m. f.		
Bacon	....	0 2 0	....	....
Cheese	610	0 2 0	107,000	$214
Butter	128	0 3 0	20,000	60
Lard, tallow and lard oil	76	0 2 0	8,000	16
Wool	261	0 2 0	18,500	37
Hides	717	0 3 0	118,000	354
Total product of animals	1,896	......	278,000	$700
Vegetable food.				
Flour	9,290	0 2 0	817,000	$1,634
Wheat	416,376	0 2 0	124,616,000	249,232
Rye	19,949	0 2 0	5,519,500	11,039
Corn	365,254	0 2 0	119,584,500	239,169
Corn meal	25	0 2 0	17,500	35
Barley	96,494	0 2 0	18,869,500	37,739
Barley malt	26,436	0 2 0	3,068,500	6,137
Oats	52,147	0 2 0	13,870,000	27,740
Bran and ship stuffs	5,632	0 2 0	670,500	1,341
Peas and beans	5,226	0 3 0	962,000	2,886
Apples	33,355	0 2 0	6,317,500	12,635

Potatoes	34,018	0 2 0	3,498,500	$6,997
Dried fruit	91	0 3 0	13,000	39
Total	1,064,293	......	297,824,000	$596,623
All other agricultural products.				
Cotton	524	0 2 0	32,000	$64
Unmanufactured tobacco	40	0 2 0	7,500	15
Hemp	20	0 2 0	2,500	5
Clover and grass seed	29	0 3 0	8,000	24
Flax seed	691	0 3 0	51,333	154
Hops	1	0 3 0	....	....
Total all other agricultural products	1,308	......	101,333	$262
Total agricultural products	1,067,497	......	298,203,333	$597,585
MANUFACTURES.				
Domestic spirits	179	0 2 0	8,500	$17
Oil meal and cake	2,704	0 2 0	82,500	165
Leather	108	0 2 0	2,500	5
Furniture	320	0 3 0	48,333	145
Bar and pig lead	34	0 1 0	13,000	13
Pig iron	44,672	0 1 0	4,374,000	4,374
Bloom and bar iron	16,505	0 1 0	2,861,000	2,861
Castings and iron ware	1,606	0 2 0	351,000	702
Domestic woolens	2	0 2 0	....	....
Domestic cottons	1	0 2 0	....	....

STATEMENT No. 56—(*Continued*).

CLASS OF ARTICLES.	1876.			
	Quantity in tons.	Rate of tolls per ton per mile.	Tons moved one mile.	Amount of toll paid.
		c. m. f.		
Domestic salt	110,965	0 2 0	14,487,500	$28,975
Foreign salt	3,105	0 5 0	494,800	2,474
Total manufactures	180,201	......	22,723,133	$39,731
MERCHANDISE.				
Sugar	3,360	0 1 0	613,000	$613
Molasses	5,841	0 1 0	516,000	516
Coffee	71	0 1 0	36,000	36
Nails, spikes and horseshoes	2,181	0 1 0	287,000	287
Iron and steel	4,486	0 1 0	768,000	768
Railroad iron	11,691	0 1 0	1,278,000	1,278
Flint, enamel, crockery and glassware	1,575	0 1 0	309,000	309
All other merchandise	35,738	0 2 0	5,213,000	10,426
Total merchandise	64,943	......	9,020,000	$14,233
OTHER ARTICLES.				
Live cattle, hogs and sheep	3	0 3 0	9,333	$28
Stone, lime and clay	200,938	0 1 0	17,149,000	17,149
Gypsum	16,776	0 1 0	1,603,000	1,603

Anthracite coal	759,374	0 1 0	75,945,000	75,945
Bituminous coal	277,324	0 1 0	37,134,000	37,134
Copper ore	....	0 1 0	....	....
Iron ore	173,530	0 1 0	12,221,000	12,221
Sundries	256,230	0 2 0	19,560,500	39,121
Total other articles	1,684,175	......	163,621,833	$183,201
Total	4,172,129	......	570,969,064	$1,340,004
Deduct tolls on boats and passengers	....	......	....	116,791
Tolls on property	....	......	....	$1,223,213

(No. 57.)

STATEMENT of the tons of property left at New York for the years named, by canal boats which run directly to New York without breaking bulk at West Troy or Albany.

ARTICLES.	1857.	1858.	1859.	1860.	1861.	1862.	1863.
THE FOREST.							
Fur and peltry	3	20	22	72	20	21	....
Product of wood.							
Boards and scantling	29,892	52,841	94,233	84,713	45,373	59,762	77,037
Shingles	121	254	460	546	118	511	403
Timber	2,054	5,798	1,974	765	756	15,813	26,861
Staves	39,489	25,133	63,312	56,397	51,940	59,474	68,755
Wood	....	....	560	405	291	3	440
Ashes, pot and pearl	3,925	1,645	1,513	2,493	1,073	692	832
Total of the forest	75,484	86,691	162,074	145,291	99,571	136,276	174,328
AGRICULTURE.							
Product of animals.							
Pork	1,104	5,443	5,248	934	1,312	14,303	33,756
Beef	928	8,859	4,624	1,138	1,920	8,926	13,075
Bacon	905	1,307	864	95	235	1,562	1,656
Cheese	1,974	4,730	6,163	5,702	4,707	5,996	4,857
Butter	638	1,687	1,832	1,383	1,837	2,754	2,388

Lard, tallow and lard oil	196	1,570	1,669	409	582	3,476	8,609
Wool	528	851	777	796	674	120	162
Hides,	324	87	81	....	14	630	59
Total product of animals	6,515	24,525	21,258	10,457	11,281	37,767	64,062
Vegetable food.							
Flour	33,307	68,008	43,383	31,471	50,879	80,294	100,749
Wheat	107,607	136,551	89,151	456,495	757,920	713,084	595,398
Rye	2,511	8,095	6,034	4,948	16,456	14,250	9,754
Corn	75,205	89,490	37,954	245,938	417,214	447,356	456,158
Corn meal	....	22	54	864	65	713	2,567
Barley	4,602	20,999	27,355	18,014	12,658	24,721	49,043
Barley malt	....	....	....	....	....	1,950	6,350
Oats	23,752	37,762	55,765	51,721	49,288	57,779	157,266
Bran and ship stuffs	6,289	10,958	4,772	3,778	5,213	3,837	8,708
Peas and beans	966	5,895	7,866	7,680	8,514	4,006	9,487
Apples	....	....	....	....	....	10,212	40,064
Potatoes	5,980	28,293	32,307	22,629	22,026	28,487	26,615
Dried fruit	63	158	150	285	655	206	356
Total vegetable food	257,282	406,141	304,791	843,823	1,340,888	1,386,895	1,471,335
All other agricultural products.							
Cotton	24	133	37	13	1	2	....
Unmanufactured tobacco	316	454	1,480	87	1,056	398	151
Hemp	63	128	80	38	35	37	21
Clover and grass seed	107	1,094	129	3	30	136	514

STATEMENT No. 57—(*Continued*).

ARTICLES.	1857.	1858.	1859.	1860.	1861.	1862.	1863.
Flax seed	225	142	39	67	77	458	2,092
Hops	214	697	507	520	122	102	58
Total all other agric'l products	949	2,648	2,272	728	1,321	1,133	2,836
Total agricultural products	264,826	433,314	328,321	855,008	1,353,490	1,425,795	1,538,233
MANUFACTURES.							
Domestic spirits	5,214	7,267	4,405	4,155	6,120	4,613	2,684
Oil meal and cake	5,685	7,855	3,620	527	5,106	3,914	3,980
Leather	1,814	4,176	4,845	4,448	2,660	1,738	2,332
Furniture	521	445	543	576	258	129	180
Bar and pig lead	51	779	2,169	2,099	3,538	2,448	3,322
Pig iron	191	1,506	26	145	52	167	1,707
Bloom and bar iron	128	888	1,163	921	350	1,007	1,157
Castings and iron ware	295	237	286	458	267	170	47
Domestic woolens	173	101	6	71	33	61	3
Domestic cottons	294	535	377	355	63	100	2
Domestic salt	142	200	1,031	1,039	29	331	2,381
Foreign salt	5	....	....	....	....	....	....
Total manufactures	14,207	23,989	18,471	13,794	18,476	14,678	21,385
MERCHANDISE.							
Sugar	4	7	9	8	7	1	102
Molasses	....	7	1	2	78	1	3

Coffee	1	2	5	....	....	....	....
Nails, spikes and horseshoes	7	637	1,023	1,292	1,179	499	446
Iron and steel	19	1,095	1,174	1,012	186	576	776
Railroad iron	....	522	6	....	25	1	....
Flint, enamel, crockery and glass ware	25	51	175	368	179	134	51
All other merchandise	6,566	5,394	4,177	2,090	798	1,163	1,621
Total merchandise	6,622	7,709	6,570	4,802	2,452	2,325	2,999
OTHER ARTICLES.							
Live cattle, hogs and sheep	1	1	1	....	....	....	....
Stone, lime and clay	1,323	21,721	25,561	23,989	18,044	9,243	12,980
Gypsum	5	49	....	....	....	....	160
Mineral coal	252	1,261	19,869	11,685	3,484	....	....
Anthracite coal	....	....	....	....	....	165	....
Bituminous coal	....	....	....	....	....	3,384	11,341
Copper ore	1,001	2,369	2,187	2,625	2,578	2,677	2,717
Iron ore	....	....	....	....	....	1,203	1,552
Sundries	17,669	21,525	45,621	36,848	33,434	13,215	25,968
Total other articles	20,251	46,926	93,239	75,147	57,544	29,977	54,718
Total	381,390	598,629	608,675	1,094,042	1,531,529	1,609,051	1,791,663

STATEMENT No. 57 — (*Continued*).

ARTICLES.	1864.	1865.	1866.	1867.	1868.	1869.
THE FOREST.						
Fur and peltry	....	....	....	....	....	....
Product of wood.						
Boards and scantling	136,611	80,439	147,899	129,370	136,072	160,346
Shingles	315	295	302	243	141	239
Timber	....	....	....	....	....	....
Staves	98,843	93,824	118,208	114,454	133,478	76,713
Wood	1,162	280	....	....	....	1,960
Ashes, pot and pearl	467	577	7,672	605	412	110
Total of the forest	232,298	175,415	274,081	244,672	270,103	239,368
AGRICULTURE.						
Product of animals.						
Pork	8,512	2,368	....	128	....	....
Beef	11,856	1,328	352	176	304	....
Bacon	290	618	5	17	....	....
Cheese	2,160	8,123	5,708	4,131	3,782	3,317
Butter	695	530	780	285	173	133
Lard, tallow and lard oil	1,197	948	54	610	383	82
Wool	411	193	220	139	84	64
Hides	397	105	8	24	27	5
Total product of animals	25,518	14,213	7,127	5,510	4,753	3,601

Vegetable food.						
Flour	54,259	48,913	27,540	24,753	27,216	46,159
Wheat	397,020	250,859	172,092	244,122	303,090	536,835
Rye	12,961	25,541	40,144	23,027	17,981	8,733
Corn	166,074	394,203	636,815	367,838	401,717	173,972
Corn meal	961	324	864	442	475	400
Barley	37,555	61,255	135,434	53,791	51,079	58,070
Barley malt	29,493	8,498	7,713	4,729	7,415	4,422
Oats	165,769	135,061	139,734	116,763	147,776	73,814
Bran and ship stuffs	4,677	6,599	2,072	2,450	5,201	8,052
Peas and beans	9,942	6,891	15,654	22,383	10,185	3,564
Apples	14,182	27,420	12,338	24,502	21,240	26,940
Potatoes	23,106	28,113	40,641	33,918	33,441	30,957
Dried fruit	196	78	68	64	29	44
Total vegetable food	916,195	993,735	1,236,109	918,782	1,026,645	971,962
All other agricultural products.						
Cotton	....	9	9	66	12	11
Unmanufactured tobacco	283	568	167	224	106	70
Hemp	29	52	....	8	....	23
Clover and grass seed	229	95	276	255	341	....
Flax seed	2,185	2,558	591	3,425	1,525	234
Hops	109	79	91	42	52	102
Total all other agricultural products	2,835	3,361	1,134	4,020	2,036	440
Total agriculture	944,548	1,011,309	1,244,370	928,312	1,033,434	976,003

STATEMENT No. 57 — (*Continued*).

ARTICLES.	1864.	1865.	1866.	1867.	1868.	1869.
MANUFACTURES.						
Domestic spirits	6,155	1,369	496	148	6	5
Oil meal and cake	4,661	4,591	1,864	2,074	2,462	1,837
Leather	2,466	3,325	3,641	4,516	4,733	1,974
Furniture	141	212	180	183	172	145
Bar and pig lead	965	977	17	488	....	18
Pig iron	641	2,196	2,179	3,220	1,745	1,794
Bloom and bar iron	1,896	322	1,509	1,440	534	211
Castings and ironware	321	94	171	148	85	174
Domestic woolens	12	8	111	203	161	270
Domestic cottons	21	117	116	127	156	136
Domestic salt	22,143	13,700	28,415	35,937	43,089	52,779
Foreign salt	....	....	....	....	....	....
Total manufactures	39,422	26,911	38,699	14,484	53,143	59,343
MERCHANDISE.						
Sugar	2	3	10	3	....	3
Molasses	51	5	439	1	30	2
Coffee	3	1	14	....	....	1
Nails, spikes and horseshoes	84	164	847	403	152	52
Iron and steel	47	7	335	497	167	392
Railroad iron	....	....	4	24	....	....

Flint, enamel, crockery and glassware	137	81	155	68	303	380
All other merchandise	858	1, 209	2, 332	2, 618	2, 589	3, 371
Total merchandise	1, 132	1, 470	4, 136	3, 614	3, 246	3,201
OTHER ARTICLES.						
Live cattle, hogs and sheep	....	....	....	....	....	....
Stone, lime and clay	16,451	21, 365	28, 241	33, 811	41, 952	38, 285
Gypsum	1	....	....	1	12	1
Mineral coal	....	....	....	....	....	....
Anthracite coal	....	200	....	....	....	....
Bituminous coal	515	300	6, 028	5, 787	2,293	3, 741
Copper ore	1, 329	1, 343	1, 819	1, 991	425	....
Iron ore	3,467	225	3, 981	6, 720	5, 196	2, 625
Sundries	21, 684	27, 860	31, 817	53, 274	56, 373	58, 947
Total other articles	43, 447	51, 293	71, 886	101, 584	106, 251	103,599
Total	1, 260, 847	1, 266, 398	1, 633, 172	1, 326, 666	1, 466,177	1,381,514

STATEMENT No. 57—(*Continued*).

ARTICLES.	1870.	1871.	1872.	1873.	1874.	1875.	1876.
THE FOREST.							
Fur and peltry	....	....	....	....	....	....	....
Product of wood.							
Board and scantling	209,438	176,290	230,943	174,550	136,700	167,427	192,030
Shingles	177	172	217	94	319	513	202
Timber	304	....	436	388	....	....	....
Staves	105,615	66,471	93,512	99,906	79,411	32,313	23,596
Wood	2,800	2,240	560	840	636	1,400	28
Ashes, pot and pearl	110	193	27	....	124	5	....
Total of the forest	318,444	245,346	325,695	275,778	217,190	201,658	215,856
AGRICULTURE. *Product of animals.*							
Pork	....	128	....	....	11	....	....
Beef	176	224	176	....	....	....	....
Bacon	....	....	....	....	....	....	....
Cheese	4,359	2,630	1,499	1,109	1,455	1,179	343
Butter	139	56	31	10	16	14	65
Lard, tallow and lard oil	4	51	78	59	3	....	60
Wool	121	24	4	1	9	....	....
Hides	15	13	....	....	....	27	....
Total product of animals	4,814	3,126	1,788	1,179	1,494	1,222	468

Vegetable food.							
Flour	41,644	25,423	11,793	7,992	14,491	9,018	2,840
Wheat	502,437	620,307	328,128	658,863	691,515	634,176	351,618
Rye	13,776	28,582	12,748	25,122	10,058	6,151	5,594
Corn	121,875	535,511	816,914	495,737	472,550	229,272	317,002
Corn meal	43	....	22	....	23	108	....
Barley	81,216	56,458	72,415	35,251	41,866	68,016	67,696
Barley malt	12,314	9,092	15,890	12,349	7,237	9,749	22,185
Oats	80,438	93,523	78,093	42,752	55,517	48,496	48,572
Bran and ship stuffs	5,375	3,077	3,642	4,562	1,837	429	333
Peas and beans	6,597	3,264	3,120	3,912	7,080	4,473	3,867
Apples	43,665	33,653	28,320	24,600	33,637	22,863	21,540
Potatoes	22,170	36,792	39,489	30,624	52,209	52,935	28,008
Dried fruit	12	52	92	46	....	39	....
Total vegetable food	931,562	1,445,734	1,410,666	1,341,810	1,388,020	1,085,725	869,255
All other agricultural products.							
Cotton	15	10	....	7	7	6	20
Unmanufactured tobacco	63	56	....	29	42	43	38
Hemp	....	....	31	25	....	2	....
Clover and grass seed	1	48	....	....	2	304	....
Flax seed	11	899	58	40	167	....	....
Hops	32	41	9	4	23	22	....
Total all other agri'l products	122	1,054	98	105	241	377	58
Total agricultural products	936,498	1,449,914	1,412,552	1,343,094	1,389,755	1,087,324	869,781

STATEMENT No. 57 — (*Continued*).

ARTICLES.	1870.	1871.	1872.	1873.	1874.	1875.	1876.
MANUFACTURES.							
Domestic spirits	20	14	7	50	....	....	....
Oil meal and cake	1,213	1,667	1,692	1,964	2,267	1,220	2,030
Leather	1,387	904	368	134	129	120	57
Furnitnre	142	163	125	51	42	440	13
Bar and pig lead	1	....	....	....	698	....	....
Pig iron	3,298	3,718	2,025	2,443	1,228	3,361	2,911
Bloom and bar iron	326	294	2,649	557	478	962	288
Castings and iron ware	165	189	84	32	152	264	....
Domestic woolens	118	34	9	19	66	31	1
Domestic cottons	110	478	76	21	28	214	....
Domestic salt	56,707	62,602	41,774	26,994	12,602	27,400	12,019
Foreign salt	....	....	....	....	....	....	....
Total manufactures	63,487	70,063	48,809	32,265	17,690	34,012	17,319
MERCHANDISE.							
Sugar	2	2	....	....	....	....	....
Molasses	19	158	....	13	23	14	....
Coffee	....	....	....	....	....	1	....
Nails, spikes and horseshoes	102	14	199	281	316	25	....
Iron and steel	1,166	1,208	384	2,567	1,532	160	814
Railroad iron	....	1	....	....	159	....	209

Flint enamel, crockery and glassware	96	16	122	....	181	115	30
All other merchandise	2,451	1,251	3,038	4,287	3,053	1,836	816
Total merchandise	3,836	2,650	3,743	7,148	5,264	2,151	1,869
OTHER ARTICLES.							
Live cattle, hogs and sheep	....	....	....	22	....	....	....
Stone, lime and clay	32,876	40,613	43,429	32,385	28,681	33,580	....
Gypsum	9	....	....	....	80	258	30,815
Mineral coal	....	....	....	....	....	....	....
Anthracite coal	8,122	....	....	....	1,520	....	2,539
Bituminous coal	....	8,440	3,000	8,768	10,611	3,750	....
Copper ore	7,257	....	....	....	....	123	....
Iron ore	....	14,214	26,664	13,703	9,191	13,103	21,471
Sundries	41,969	67,780	52,611	27,465	29,834	31,265	123,128
Total other articles	90,233	131,047	125,704	82,343	79,917	82,079	177,953
Total	1,412,498	1,899,020	1,916,503	1,740,628	1,709,816	1,407,224	1,282,778

(No. 58.)

STATEMENT of foreign exports of flour and grain from New York, from 1861 *to* 1876.

YEARS.	Barrels wheat flour.	Barrels rye flour.	Barrels corn meal.	Bushels wheat.	Bushels corn.	Bushels oats.
1861	3,110,646	11,807	108,385	28,889,914	12,456,265	160,875
1862	2,961,518	8,397	132,606	25,564,755	12,020,848	210,669
1863	2,527,338	5,461	140,561	15,424,889	7,533,431	126,566
1864	1,918,393	2,840	105,142	12,193,433	846,831	42,135
1865	1,402,144	2,673	127,600	2,527,626	2,549,670	94,567
1866	900,084	7,552	149,773	522,669	11,079,394	1,190,583
1867	871,089	11,754	151,669	4,468,774	8,147,813	144,665
1868	1,003,968	7,459	191,011	5,762,037	5,989,225	94,707
1869	1,584,211	5,283	137,627	18,240,586	1,637,586	49,393
1870	1,950,234	....	....	18,446,035	487,792	28,986
1871	1,660,400	4,200	123,500	21,968,600	13,046,600	47,300
1872	1,216,082	6,399	194,040	13,144,400	25,292,200	31,739
1873	1,655,331	8,249	176,756	27,801,800	15,587,500	49,700
1874	2,177,608	8,473	168,603	34,791,249	19,000,995	122,528
1875	1,954,100	5,700	173,400	26,192,700	12,938,700	138,800
1876	1,887 441	5,778	172,042	24,144,033	16,610,232	620,536

STATEMENT No. 58 — (*Continued*).

YEARS.	Bushels barley,	Bushels rye.	Bushels peas and beans.	Bushels malt.	Aggregate in tons.
1861	3,927	1,000,405	139,284	....	1,599,261
1862	42,061	1,104,549	113,819	....	1,477,321
1863	52,439	416,369	110,911	....	980,675
1864	150	588	186,154	....	614,642
1865	....	198,348	88,899	....	322,454
1866	1,329,842	248,646	282,992	....	506,520
1867	886,893	473,260	680,763	....	531,204
1868	90	152,993	189,226	....	481,902
1869	....	142,542	123,156	....	788,075
1870	....	92,431	151,102	....	785,249
1871	98,700	525,800	90,900	....	1,238,053
1872	22,066	668,030	156,609	....	1,378,412
1873	19,400	1,069,100	143,500	....	1,504,771
1874	3,560	641,661	463,193	....	1,863,297
1875	1,500	206,900	634,900	....	1,506,544
1876	88,097	1,336,283	716,428	....	1,483,402

(No. 59.)

STATEMENT of total movement of flour, meal and grain on all the canals, from 1861 *to* 1876.

YEARS.	Barrels wheat flour.	Barrels rye flour.	Barrels corn meal.	Bushels wheat.	Bushels corn.	Bushels oats.
1861	1,667,416	....	2,176	33,171,900	25,024,643	6,105,313
1862	2,102,574	....	18,416	37,579,967	27,225,643	6,550,187
1863	1,930,731	....	44,704	26,577,166	22,287,036	16,040,937
1864	1,474,582	....	51,305	19,932,067	11,086,536	15,122,937
1865	1,271,129	....	24,018	14,433,566	20,689,500	11,973,939
1866	751,870	....	17,972	10,989,800	28,904,143	12,138,250
1867	569,334	....	12,808	13,630,300	17,930,500	10,476,000
1868	575,900	....	14,861	14,425,567	18,437,100	11,927,250
1869	657,870	....	12,666	22,351,133	9,159,643	5,769,312
1870	509,055	....	12,250	21,950,800	6,893,893	7,371,312
1871	381,583	....	6,611	23,951,633	24,002,035	8,118,187
1872	190,129	....	6,046	13,463,433	32,241,179	5,809,938
1873	181,731	....	9,342	26,768,800	22,760,571	4,376,437
1874	269,759	....	8,314	25,738,766	18,542,964	3,713,000
1875	163,287	....	3,000	24,809,766	10,072,536	3,919,813
1876	86,019	....	232	13,879,200	13,044,786	3,259,188

STATEMENT No. 59 — (*Continued*).

YEARS.	Bushels barley.	Bushels rye.	Bushels peas and beans.	Bushels malt.	Aggregate in tons.
1861	2,444,083	976,000	347,233	....	2,070,251
1862	2,764,916	967,750	375,433	280,182	2,332,928
1863	3,816,458	592,571	530,700	366,242	2,021,505
1864	3,232,292	670,168	550,000	565,294	1,437,598
1865	5,336,416	1,220,714	401,533	725,151	1,530,037
1866	7,867,041	1,751,928	536,667	298,212	1,680,169
1867	4,972,250	1,044,643	827,133	479,818	1,322,774
1868	3,698,083	873,357	391,667	257,029	1,350,090
1869	4,125,500	481,750	379,233	330,400	1,221,397
1870	5,132,958	697,143	226,123	698,686	1,189,267
1871	4,749,662	1,234,392	162,700	801,371	1,759,882
1872	5,902,542	477,036	146,600	1,578,914	1,586,249
1873	2,941,083	1,077,143	393,300	1,182,466	1,660,981
1874	4,110,584	293,393	200,566	453,200	1,500,490
1875	4,353,125	296,750	195,200	71,287	1,238,115
1876	4,020,584	712,464	174,200	1,510,629	991,197

(No. 60.)

STATEMENT of flour, meal and grain received at tide water by canal, from 1861 *to* 1876.

YEARS.	Barrels wheat flour.	Barrels rye flour.	Barrels corn meal.	Bushels wheat.	Bushels corn.	Bushels oats.
1861	1,530,775	....	3, 342	29,632,400	22,344,179	5,991,438
1862	1,826,509	....	10,935	32,667,866	23,709,822	5,929,249
1863	1,628, 982	....	30,009	22,350,533	19,974,643	12,567,500
1864	1,197, 971	....	13,444	15,916,733	9,412,714	13,730,124
1865	989,764	....	16,074	10,458,333	18,060,607	11,006,375
1866	570,704	....	10,158	7,584,166	26,516,535	11,220,624
1867	450, 050	....	4,120	9,466,100	15,405,750	8,841,000
1868	448,361	....	4,398	11,414,366	16,343,107	11,243,376
1869	552, 611	....	3,148	18,718,933	7,048,964	5,377,553
1870	453, 370	....	5,268	17,557,333	4,904,358	6,327, 500
1871	288,250	....	4,898	21,577,299	20,127,965	6,833,625
1872	145,431	....	202	11,373,666	29,914,321	6,684,625
1873	100, 027	....	....	22,400,799	18,598,749	3,428,563
1874	177, 500	....	213	23,734,299	17,592,610	4,711,374
1875	102,064	....	1,000	22,522,866	8,415,903	3,186,688
1876	36,240	....	....	11,792,299	11,371,071	3,148,062

STATEMENT No. 60 — (*Continued*).

YEARS.	Bushels barley.	Bushels rye.	Bushels peas and beans.	Bushels malt.	Aggregate in tons.
1861	2,046,667	805,536	378,366	....	1,859,182
1862	2,562,659	700,215	243,999	186,844	2,026,208
1863	3,263,792	442,858	395,299	441,879	1,719,968
1864	3,166,209	647,214	380,300	1,840,764	1,228,394
1865	4,523,583	1,113,643	267,999	653,472	1,271,076
1866	7,449,833	1,749,535	523,299	329,639	1,460,724
1867	3,866,041	890,286	762,133	816,857	1,060,724
1868	3,386,791	804,000	341,366	479,252	1,151,371
1869	3,577,666	376,107	119,100	319,886	1,010,628
1870	4,618,208	638,071	330,066	848,914	964,976
1871	3,677,208	1,068,643	109,533	753,943	1,486,555
1872	4,478,289	476,431	104,900	1,103,714	1,428,777
1873	2,245,083	934,822	130,600	821,429	1,356,809
1874	2,927,833	850,679	237,000	521,714	1,370,291
1875	3,802,958	230,607	159,466	698,686	1,087,889
1876	3,761,208	681,964	128,900	750,514	1,106,822

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